



GENERAL
ANNOUNCEMENT

**ASSUMPTION
UNIVERSITY
OF WINDSOR**

UNIVERSITY COLLEGE

ESSEX COLLEGE

HOLY NAMES COLLEGE

HOLY REDEEMER COLLEGE

CANTERBURY COLLEGE

1959-1960

*Special
pr.*

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ASSUMPTION UNIVERSITY OF WINDSOR

WINDSOR, ONTARIO, CANADA



GENERAL ANNOUNCEMENT
1959 - 60



UNIVERSITY COLLEGE

ESSEX COLLEGE

HOLY NAMES COLLEGE

HOLY REDEEMER COLLEGE

CANTERBURY COLLEGE



ARTS AND SCIENCE, BUSINESS ADMINISTRATION,
ENGINEERING, NURSING, GRADUATE STUDIES.

ASSUMPTION
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OF WINDSOR

WINDSOR, ONTARIO, CANADA

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HOLY REDEEMER COLLEGE

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ARTS AND SCIENCE, BUSINESS ADMINISTRATION,
ENGINEERING, NURSING, GRADUATE STUDIES

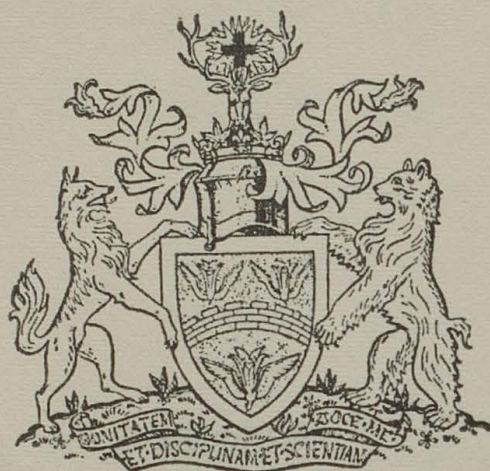


FOREWORD

"The proper and immediate end of a Christian education is to co-operate with divine grace in forming the true and perfect Christian. . . . For precisely this reason Christian education takes in the whole aggregate of human life, physical and spiritual, intellectual and moral, individual, domestic and social, not with a view of reducing it in any way, but in order to elevate, regulate and perfect it, in accordance with the example and teaching of Christ."

POPE PIUS XI, *Christian Education of Youth*

ARMORIAL BEARINGS OF ASSUMPTION UNIVERSITY OF WINDSOR



Upon achieving university status Assumption College petitioned the Earl Marshall, the Duke of Norfolk, for a grant of armorial bearings. In virtue of a warrant issued by His Grace on September 24, 1953, the College of Heralds granted armorial bearings on March 3, 1955, described as follows:

- Coat-of-arms:** Azure a Fesse embattled and enarched Or Masoned Sable between three Lily flowers proper Winged Gold all within a Bordure of the last
- Crest:** Out of a Coronet composed of Fleurs de lys Or and Maple leaves Gule set alternately upon a Rim Gold a Stag's head and neck affrontée proper between the antlers a Cross Sable rayonée also Gold
- Supporters:** On the dexter side a Wolf and on the sinister side a Bear proper
- Motto:** "Bonitatem et disciplinam et scientiam doce me"
(Psalm 118)

The winged lilies represent the Assumption of the Blessed Virgin, and the bridge symbolises the function of a University in uniting segments of society as well as races and nations; the stag's head is taken from the arms of the City of Windsor, the sun alludes to the County of Essex, the Greek cross represents St. Basil the Great, patron of the Basilian Fathers, the fleurs de lys and maple leaves symbolise the French and Canadian founders of Assumption College; the wolf is taken from the armorial bearings of St. Ignatius Loyola, founder of the Jesuits (who initiated the College), and the bear from the arms of Rt. Rev. A. Macdonell, first Bishop of Regiopolis (Kingston) who obtained title from the crown in 1830 for the land upon which the university is located.

CONTENTS

	Page
Foreword	3
Calendar	7
Administrative Boards	8
Senate ..	12
Advisory Council	14
Officers of Administration	15
Officers of Instruction.....	17
Historical Statement	29
General Information	31
Enrolment ..	40
Fees ..	41
Financial Aid for Students.....	44
Admission Requirements	54
Academic Regulations ..	58
Requirements for Degrees.....	66
Graduate Studies	100
Details of Subjects.....	112
Department of Extension	177
Semester-Hour Equivalents	178
Basilian Institutions	182
Forms of Bequest.....	183

ASSUMPTION UNIVERSITY OF WINDSOR

is a full member of

The University Matriculation Board of Ontario

The National Conference of Canadian Universities

The Association of Universities of the British Commonwealth

1959

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ACADEMIC CALENDAR

1959

July 6, Monday, to August 15, Saturday (inclusive)—	Summer session.
September 16, Wednesday—	First semester begins.
September 16, Wednesday, to September 19, Saturday—	Registration (undergraduate).
September 21, Monday—	Lectures begin. Late registration penalty (see p. 41).
September 24, Thursday—	Registration for graduate students.
October 3, Saturday—	Last day of registration for full- time students.
October 12, Monday—	Thanksgiving Day. No classes.
October 30, Friday—	Fall Convocation.
December 8, Tuesday—	Patronal Feast of the University. No classes.
December 19, Saturday—	Christmas recess begins at 12 noon.

1960

January 4, Monday—	Lectures resume.
January 9, Saturday—	First semester ends.
January 11, Monday—	Second semester begins.
March 3, Thursday, and March 4, Friday—	Annual Retreat.
April 14, Thursday, to April 18, Monday (inclusive)—	Easter recess.
April 19 to April 22—	Study Week.
May 7, Saturday—	Second semester ends.
May 28, Saturday—	Spring Convocation.

ASSUMPTION UNIVERSITY OF WINDSOR

BOARD OF GOVERNORS

Members ex officiis:

Very Rev. E. Carlisle LeBel, C.D., C.S.B., M.A., Vice-Chancellor
and President, *Chairman*.

Very Rev. Francis L. Burns, C.S.B., Ph.D., Superior.

Rev. Norbert J. Ruth, C.S.B., M.A., Dean of Arts and Science.

Rev. Edwin C. Garvey, C.S.B., Ph.D., Councillor.

Rev. E. Arthur Roberts, C.S.B., B.A., S.T.B., Treasurer.

Very Rev. George B. Flahiff, C.S.B., B.A., Archiviste-Paléographe
Diplômé de l'Ecole des Chartes (Paris), Superior-General
of the Basilian Fathers.

Elected members:

Rev. Peter J. M. Swan, C.S.B., Ph.D., Executive Vice-President
and Registrar, *Secretary*.

Rev. Daniel J. Mulvihill, C.S.B., Ph.D., Vice-President, Develop-
ment.

Representatives:

One representative appointed by each of the affiliated colleges.

BOARD OF REGENTS

Anthony F. Fuerth, K.S.S., *Chairman*.

Rev. D. J. Mulvihill, C.S.B., Ph.D., *Secretary*.

The President and Treasurer of the University, *ex officiis*.

The Chairmen of the Boards of Directors of the affiliated colleges, *ex officiis*.

James H. Barth

J. Edward Campeau

W. Henry Cantelon

G. Arthur Dew

Samuel E. Dinsmore

Harry E. Gignac, K.C.S.G.
Eli C. Goldin, LL.D.
Jerome R. Hartford, B.A.
H. Clifford Hatch
Frank J. Hogan
Eric B. Lavelle
Miss Helen M. McTague, Q.C.
John E. Marshall, B.A.
William D. Merlo
Max N. Mousseau
William P. Park
James C. Pennington, M.R.A.I.C.
Leo J. Ryan
Rhys M. Sale, LL.D.
Frank T. Sherk
John J. Stuart, B.Comm.
Ronald W. Todgham
Anthony T. Wachna, B.A., M.D.
William R. Waddell, M.D.
George R. Weller
T. Walker Whiteside, Q.C.
George Herbert Zimmerman, B.C.S.

ESSEX COLLEGE BOARD OF DIRECTORS

Rhys M. Sale, LL.D., *Honorary Chairman.*
William H. Arison, B.A.Sc., P.Eng., M.C.I.C., A.I.Ch.E., *President and
Chairman*
William J. Carter, M.R.A.I.C., P.Eng., *Vice-President.*
William T. Grant, B. Comm., *Vice-President.*
Ian R. McFarlane, C.A., *Treasurer.*
John W. Whiteside, B.A., *Secretary.*
The President of the University, *ex officio.*

William Harrison
Raymond J. Lyons
G. Malcolm Morton, B.A., M.D., M.Sc., F.R.C.S.(C.), F.A.C.S.
Louis L. Odette, Jr.
John M. Page, C.A.
William P. Park
S. J. Stodgell
James E. Watson, B.A., Q.C.
George R. Weller

HOLY NAMES COLLEGE

BOARD OF DIRECTORS

Sister M. John Thomas, S.N.J.M., B.A., M.A., *Principal, Chairman.*
Sister Pauline of Mary, S.N.J.M., M.A., *Secretary.*
Sister Michael Mary, S.N.J.M., B.A., *Treasurer.*
Sister Charles of Jesus, S.N.J.M., B.A.
Sister Louise-de-France, S.N.J.M., M.A., Provincial Superior of the
Sisters of the Holy Names of Jesus and Mary.

HOLY REDEEMER COLLEGE

BOARD OF DIRECTORS

Very Rev. Gerard Owens, C.Ss.R., S.T.L., *Principal, Chairman.*
Very Rev. J. Arthur Ryan, C.Ss.R., Ph.D., Provincial Superior of the
Redemptorist Fathers, *Vice-Chairman.*
Rev. John S. MacDonald, C.Ss.R., B.A., *Prefect of Students.*

CANTERBURY COLLEGE BOARD OF DIRECTORS

The Right Reverend George N. Luxton, B.A., B.D., LL.D., D.D., Bishop
of Huron, *Chairman.*

Reginald E. Burnell, B.A., *President.*

Rev. Frank C. McRitchie, C.D., B.A., *Vice-President.*

James A. Holden, Q.C., B.A., *Secretary.*

Firth A. Hubbell, *Treasurer.*

The Ven. Archdeacon Kenneth C. Bolton, B.A., L.Th., B.D.

Douglas J. Broadwell, M.D., C.M.

Rev. Arthur D. Brown, B.A., L.Th.

Luther C. Clarke, B.A.

Cyril B. Hallam, B.A.

Henry W. Harding

Gordon E. Hunt

George E. Marshall, B.A.

Percival A. Muirhead

Clifford H. Musson

Charles H. Ramin

Rev. Canon G. A. Ruskell, M.A.

Rev. Ralph R. Sadlier, F.R.G.S.

Rev. Canon Bertram A. Silcox, B.A., L.Th.

Rev. Canon John H. Whealen, B.A., L.Th.

THE SENATE OF ASSUMPTION UNIVERSITY OF WINDSOR

Members ex officii:

The Chancellor
The Vice-Chancellor and President
The Vice-President
The Principal of each constituent and affiliated college
The Librarian
The Registrar
The Dean of Women
The Dean of Arts and Science
The Dean of Nursing
The Heads of Departments
T. C. White, B.A., B.Paed., Director of Education of Windsor.
Miss Gladys Shepley, B.A., B.L.S., Chief Librarian of Windsor.
J. Howie, M.D., C.M., D.T.M., D.P.H., Medical Officer of Health
of Windsor.
Judge Albert J. Gordon, Senior Judge of Essex County.
A. Burrell, B.S.A., representative of the Ontario Department of
Agriculture in Essex County.

Elected Members:

F. J. Chauvin, B.A., Barr.-at-Law; P. L. McManus, B.A.; by the
graduates.
P. F. Flood, M.A.; J. Huschilt, M.A.; by the Faculty of Arts and
Science.

Appointed Members:

W. P. Augustine, M.E.I.C., Border Cities Branch, Engineering
Institute of Canada.
Philip T. Badour, Local 195, U.A.W.-C.I.O.
John J. Bowden, B.A., District 17, Ontario Secondary School
Teachers' Federation.
Alderman John H. Charlton, Windsor City Council.
L. Arthur Desmarais, Windsor Separate School Board.
W. A. Donohue, Sarnia City Council.
Arthur S. FitzGerald, C.A., Windsor and District Chartered Ac-
countants Association.
F. J. Furlong Sr., D.D.S., Essex County Dental Association.
A. A. Gilroy, B.A., Public School Inspectors of Essex and Kent
Counties.
P. J. Gleeson, B.A., District 1, Ontario Secondary School Teach-
ers' Federation.
F. G. Holmes, Essex County Pharmacists' Association.

Don B. Hyland, M.Sc., M.C.I.C., P.Eng., Essex-Kent Section,
Chemical Institute of Canada.
 Gordon R. James, R.I.A., Windsor Chapter, Society of Industrial
and Cost Accountants of Canada.
 W. T. Laing, B.A., Inspectors of Secondary Education of Essex
and Kent Counties.
 Rt. Rev. Monsignor W. J. Langlois, D.P., P.P., Roman Catholic
Deanery of Essex.
 H. J. Lassaline, M.A., Windsor Chamber of Commerce.
 Rev. William Lawson, Windsor Council of Churches.
 Mrs. Alma McGuire, Reg.N., Windsor-Essex County Chapter,
Registered Nurses Association of Ontario, District 1.
 A. M. McNamara, B.A., Separate School Inspectors of Essex and
Kent Counties.
 G. A. McTague, M.D., Essex County Medical Society.
 Harold J. O'Brien Jr., B.A., Chatham City Council.
 C. J. O'Gorman, B.A., Essex County Council.
 Joseph Ord, B.A., Windsor Board of Education.
 Mrs. A. B. Pelton, M.Sc., University Women's Club of Windsor.
 Henry Renaud, Local 200, U.A.W.-C.I.O.
 Alderman William C. Riggs, Windsor City Council.
 Bernard Roy, Essex County Council.
 Sam Sasso, Windsor and District Labour Council.
 Rabbi S. S. Stollman, Congregation Shaar Hashomayim.
 M. M. Sumner, Jewish Community Council.
 H. D. Taylor, M.D., Windsor Board of Education.
 B. H. Yuffy, Essex Law Association.

Representatives-at-large appointed by the Senate:

Miss E. Margaret Bowlby	Judge J. A. Legris
Miss Claire Coughlin	J. A. Marsh
A. R. Davidson	G. E. Marshall
Col. F. K. Jasperson	N. F. Morrison, Ph.D.
R. W. Keeley	Leo Sylvestre

Officers of the Senate:

Chairman: The Vice-Chancellor and President
Secretary: The Registrar

Executive Committee:

The President, *Chairman*; the Vice-President, the Principals of each constituent and affiliated college, the Librarian, the Registrar, the Dean of Women, the Dean of Arts and Science, the Dean of Nursing and the Heads of Departments.

THE ADVISORY COUNCIL

R. M. Agnew	J. E. Marshall, B.A.
Mrs. W. P. Augustine	Milton Meretsky
Miss Jean Beasley	Mrs. Gordon Miller
A. J. Beckler	D. R. Morand, Q.C.
E. T. Berry	Miss Gladys Munnings
Ernest Beuglet, M.D.	Miss Helen Murphy
M. F. Brobst	H. F. Murwin
A. P. Chauvin	P. D. Norton
A. D. Cherniak	Mayor Michael Patrick (Windsor)
M. F. Coughlin	Col. Paul Poisson, M.D.
Mayor Arthur Cullen (Leamington)	Mayor E. J. Queen (Essex)
Mrs. Lila Doyle	John Raeside
Mayor E. T. Laframboise (Amherstburg)	J. J. Riordan
Dr. A. J. Jacques	C. E. Sennett
Dr. L. W. Koch, Mayor (Harrow)	Mayor R. Gordon Stewart (Riverside)
T. Kovinsky	Mayor R. S. Newberry (Wallaceburg)
A. Liddell	Mayor Harold Cull (Kingsville)
John McCabe, M.D.	Mrs. W. R. Whiteside
Lt. Col. Bruce MacDonald, Q.C.	J. W. Whiteside, B.A.
J. A. McPharlin	J. S. Young, M.D.
Mrs. Herman Markham	

OFFICERS OF ADMINISTRATION

Chancellor

His Excellency the Most Reverend John Christopher Cody, D.D.,
LL.D., Bishop of London.

Vice-Chancellor and President

Very Rev. Eugene Carlisle LeBel, C.D., C.S.B., M.A.

Executive Vice-President and Registrar

Rev. Peter Julian Michael Swan, C.S.B., Ph.D.

Vice-President, Development

Rev. Daniel Joseph Mulvihill, C.S.B., Ph.D.

Superior and Chaplain

Very Rev. Francis Leo Burns, C.S.B., Ph.D.

Treasurer

Rev. Edward Arthur Roberts, C.S.B., B.A., S.T.B.

Librarian

Eleanor Barteaux Haddow (Mrs. Robert), B.A., B.L.S.

Dean of Arts and Science

Rev. Norbert Joseph Ruth, C.S.B., M.A.

Principal of University College

Rev. Edwin Charles Garvey, C.S.B., Ph.D.

Principal of Holy Redeemer College

Very Rev. Gerard Owens, C.Ss.R., S.T.L.

Principal of Canterbury College

Rev. Robert Spencer Rayson, M.A., S.T.B., D.D.

Staff Chairman, Essex College

Frank A. DeMarco, Ph.D., F.C.I.C.

Dean of Women and Principal of Holy Names College

Sr. John Thomas, S.N.J.M., M.A.

Dean of Men

Rev. Donald Thomas Faught, C.S.B., M.A.

Director of Extension

Rev. Edward Cecil Pappert, C.S.B., Ph.D.

Director of the Christian Culture Series

Rev. J. Stanley Murphy, C.S.B., M.A.

Director of Dramatics and of Radio-TV Programs

Rev. Cornelius P. J. Crowley, C.S.B., Ph.D.

Faculty Moderator of Athletics

Rev. John Michael Hussey, C.S.B., M.A.

Director of Athletics

Richard James Moriarty, B.A.

Director of Development and Public Relations

John Edward Thompson, M.C., B.A.

Alumni Secretary

Roger James Schifferli, B.A.

Assistant Registrar

Barbara Helen Birch, M.A.

Assistant to Registrar

Margaret Anne Masterson (Mrs. K. B.), B.A.

Secretary to the President

Helen Haberer (Mrs. A.)

Assistant to the Treasurer

Madeleine Suzanne Beaupré

Accountant

Joseph E. Schiller, B.A.

Business Administrator, Essex College

Cecil Vere Waters, F.C.I.S.

Secretary, Essex College

Marie Elizabeth Renaud (Mrs. R. A.), B.A.

Library Staff

Mrs. R. Haddow, B.A., B.L.S., Librarian.

William F. Dollar, M.A., A.M.L.S., Assistant Librarian (and Head, Reference Department).

James Emery Kanyasi, B.Sc., A.M.L.S., Head, Science Department.

Albert V. Mate, A.M., A.M.L.S., Head, Circulation Department.

Etta L. Bruce, B.A., B.L.S., Cataloguer.

Julija Baumanis, Grad. Agron. (Riga), A.M.L.S., Assistant Science Librarian.

Doris Moggridge (Mrs. W. R.), B.A., Dipl. in L.S., Assistant Reference Librarian.

Cleva M. Fallon (Mrs. Wilfrid), Acquisitions Department.

THE FACULTY OF ARTS AND SCIENCE

Faculty Council

The Dean of Arts and Science, *Chairman*; the Principals of the constituent and affiliated colleges, and the Heads of Departments, as follows:

Maurice Adelman, Ph.D., **Chemistry**

Rev. C. P. J. Crowley, C.S.B., Ph.D., **English (Speech)**

F. A. DeMarco, Ph.D., **Engineering**

Rev. D. T. Faught, C.S.B., M.A., **Mathematics**

Rev. E. C. Garvey, C.S.B., Ph.D., **Philosophy**

Rev. A. J. Grant, C.S.B., M.A., **Biology (Botany, Zoology)**

G. R. Horne, Ph.D., **Business Administration**

Rev. M. J. Hussey, C.S.B., M.A., **Classics**

Rev. C. J. Drouillard, C.S.B., Ph.D., **Modern Languages**

Rev. L. A. McCann, C.S.B., S.T.D., **Theology**

Rev. D. J. Mulvihill, C.S.B., Ph.D., **History**

W. G. Phillips, Ph.D., **Economics and Political Science**

Dean Florence M. Roach, R.R.C., B.S., Reg.N., R.R.L., **Nursing**

John Huschilt, M.A. (Acting Head), **Physics**

Brother Roger Philip, F.S.C., Ph.D., **Psychology**

Officers of Instruction—Full time

(The year of first appointment to the Faculty of Arts and Science is given. "C" in brackets after name indicates the staff of Canterbury College; "E" the staff of Essex College; "R" the staff of Holy Redeemer College; "U" the staff of University College).

Maurice Adelman (E)

B.A.Sc., Toronto, 1937.

M.A.Sc., *ibid.*, 1940.

Ph.D., *ibid.*, 1946.

Professor of Chemistry—1956.

Rev. Arthur Edward Alexander, C.Ss.R. (R)

Ph.L., Fribourg, 1955.

Assistant Professor of Philosophy—1957.

Winfred Gerald Benedict (E)

B.S.A., Toronto, 1949.

Ph.D., *ibid.*, 1952.

Associate Professor of Biology—1957.

Robert Gordon Billinghamurst (E)

B.A.Sc., Toronto, 1940.

M.A.Sc., *ibid.*, 1949.

Associate Professor of Engineering—1957.

Rev. Frank John Boland, C.S.B. (U)

B.A., Toronto, 1938.

M.A., Detroit, 1948.

Ph.D., Ottawa, 1955.

Assistant Professor of History—1955.

Irvin Henry Brockman (E)

B.E., Saskatchewan, 1958.

Instructor in Physics—1958.

John Maxwell Brownlie (E)

B.A., Western Ontario, 1949.

M.B.A., Michigan, 1950.

Assistant Professor of Business Administration—1958.

Very Rev. Francis Leo Burns, C.S.B. (U)

B.A., Western, 1928.

M.A., Michigan, 1939.

Ph.D., *ibid.*, 1947.

Superior, 1958.

Associate Professor of Economics—1936.

Louis Lorne Campbell (E)

B.Sc., Manitoba, 1950.

M.S., Iowa State College, 1951.

Ph.D., Toronto, 1955.

Assistant Professor of Mathematics—1958.

Vincent Casmere Chrypinski (U)

M.L., Catholic U. of Lublin (Poland), 1939.

M.A., Wayne, 1953.

Ph.D., Michigan, 1958.

Assistant Professor of Political Science—1957.

Rev. Edward Alphonsus Coholan, C.Ss.R. (R)

B.A., Assumption U. of Windsor, 1957.

Lecturer in English—1957.

William George Colborne (E)

B.Sc., Queen's, 1948.

M.Sc., *ibid.*, 1950.

Associate Professor of Engineering—1958.

Rev. Cornelius Patrick Joseph Crowley, C.S.B. (U)

B.A., Toronto, 1936.

M.A., Michigan, 1945.

Ph.D., *ibid.*, 1952.

Professor of English—1944.

Rev. Edward J. Crowley, C.Ss.R. (R, U)

B.A., St. Joseph's (New Brunswick), 1941.

S.T.L., Catholic U. of America, 1948.

S.S.L., Pontifical Biblical Institute (Rome), 1950.

Assistant Professor of Theology—1957.

- Joseph Csendes (E)
 Ph.D., Royal "Stephen Tisza", 1935.
 LL.D., University of Debrecen, 1938.
Demonstrator in Physics—1958.
- Jessie Evelyn Dalman (Mrs. A. B.) (E)
 Reg.N., 1944.
 B.N.Sc., Queen's, 1948.
Instructor in Nursing—1958.
- John Norbert Deck (U)
 B.A., Western Ontario, 1946.
 M.A., *ibid.*, 1948.
Lecturer in Philosophy—1957.
- Frank A. DeMarco (E)
 B.A.Sc., Toronto, 1942.
 M.A.Sc., *ibid.*, 1943.
 Ph.D., *ibid.*, 1951.
Professor of Chemistry—1946.
- Rev. John Roger Dougherty, C.S.B. (E)
 B.A., Western Ontario, 1951.
 S.T.B., St. Michael's (Toronto), 1955.
Lecturer in Biology—1951.
- Robert Joseph Doyle (E)
 B.A., Western Ontario, 1948.
 M.A., *ibid.*, 1950.
 M.S., Michigan State, 1953.
Assistant Professor of Biology—1948.
- Rev. Clarence Joseph Drouillard, C.S.B. (U)
 B.A., Toronto, 1944.
 M.A., *ibid.*, 1947.
 Ph.D., Laval, 1951.
Associate Professor of Modern Languages—1956.
- Douglas Donald Duquette (E)
 B.A., Western Ontario, 1952.
 M.S., Michigan State, 1955.
Lecturer in Engineering—1952.
- George Duwalo (E)
 B.A., Toronto, 1953.
 M.A., *ibid.*, 1955.
 Ph.D., *ibid.*, 1957.
Assistant Professor in Physics—1957.
- Rev. D'Arcy Lawrence Egan, C.Ss.R. (R, U)
 S.T.L., Catholic U. of America, 1945.
Associate Professor of History and Theology—1957.

- Hermes Andrew Eliopoulos (E)
 B.Sc., Salonika, Greece, 1946.
 M.Sc., McGill, 1954.
 Ph.D., Toronto, 1956.
Assistant Professor of Mathematics—1956.
- Rev. Donald Thomas Faught, C.S.B. (E)
 B.A., Toronto, 1937.
 M.A., Michigan, 1944.
Associate Professor of Mathematics—1954.
- Charles Fay (U)
 B.S., St. Louis, 1948.
 M.A., *ibid.*, 1950.
 Ph.D., *ibid.*, 1956.
Assistant Professor of Philosophy—1958.
- Rev. Robert Charles Fehr, C.S.B. (U)
 B.A., Toronto, 1943.
 M.A., Detroit, 1949.
 Ph.D., Fordham, 1958.
Assistant Professor of Psychology—1951.
- Harold Ross Fletcher (E)
 B.A.Sc., Toronto, 1949.
 M.A.Sc., *ibid.*, 1957.
Lecturer in Engineering—1958.
- Patrick Francis Flood (U)
 B.A., Western Ontario, 1939.
 M.A., *ibid.*, 1941.
Assistant Professor of Philosophy—1945.
- Rev. Edwin Charles Garvey, C.S.B. (U)
 B.A., Toronto, 1928.
 M.A., *ibid.*, 1932.
 Ph.D., *ibid.*, 1937.
 Principal, University College, 1958.
Professor of Philosophy—1937.
- John Blake Gertz (E)
 B.S., Detroit, 1940.
 M.B.A., Ohio State, 1950.
Assistant Professor of Business Administration—1957.
- Alex William Gnyp (E)
 B.A.Sc., Toronto, 1953.
 M.A.Sc., *ibid.*, 1954.
 Ph.D., *ibid.*, 1958.
Assistant Professor of Chemistry—1958.

- Craufurd David Goodwin (U)
 B.A., McGill, 1955.
 Ph.D., Duke University, 1958.
Lecturer in Economics—1958.
- Rev. Alexander John Grant, C.S.B. (E)
 B.A., Toronto, 1933.
 M.A., St. Bonaventure, 1944.
Professor of Biology—1945.
- Wilfred Hanson (E)
 B.Comm., Saskatchewan, 1950.
 M.B.A., Western Ontario, 1952.
Lecturer in Business Administration—1958.
- James Paul Hartt (E)
 B.A.Sc., Toronto, 1950.
Instructor in Engineering—1958.
- Rudolf A. Helling (U)
 B.A., Wayne State, 1952.
 Diplom-Sozialwirt (B.D.V.), Wilhelmshaven, 1953.
Lecturer in Sociology—1956.
- Gilbert Richard Horne (E)
 B.A., Western Ontario, 1931.
 M.A., Michigan, 1936.
 Ph.D., *ibid.*, 1954.
Professor of Business Administration—1931.
- Rev. Arthur Robert Howell, C.S.B. (E)
 B.Sc., Saskatchewan, 1949.
 S.T.B., St. Michael's (Toronto), 1957.
 M.A.Sc., Toronto, 1959.
Lecturer in Engineering—1958.
- John Huschilt (E)
 B.A., Toronto, 1952.
 M.A., *ibid.*, 1953.
Assistant Professor in Physics—1953.
- Rev. John Michael Hussey, C.S.B. (U)
 B.A., Toronto, 1931.
 M.A., Catholic U. of America, 1937.
Professor of Classics—1941.
- Rev. Kleinnart Joseph Johnson, C.Ss.R. (R)
 M.A., Catholic U. of America, 1944.
 B.A., Western Ontario, 1947.
Assistant Professor of English—1946.
- Sr. M. John Thomas, S.N.J.M. (U)
 B.A., Western Ontario, 1949.
 M.A., Detroit, 1954.
 Dean of Women, 1958.
Lecturer in English—1958.

Daniel Patrick Kelly (U)
B.A., Toronto, 1950.
M.A., Toronto, 1952.

Lecturer in English—1958.

Rev. James Joseph Keon, C.S.B. (U)
B.A., Toronto, 1948.
M.A., *ibid.*, 1951.
M.Ed., Rochester, 1959.

Lecturer in Theology and Philosophy—1958.

Raymond Henry Koenig (E)
B.Sc., McMaster, 1954.
M.Sc., *ibid.*, 1955.

Lecturer in Physics—1956.

*Rev. George Watka Kosicki, C.S.B. (E)
B.A., Western Ontario, 1951.
M.S., Michigan, 1956.

Lecturer in Chemistry—1956.

Lucjan Krause (E)
B.Sc., London, England, 1951.
M.A., Toronto, 1953.
Ph.D., *ibid.*, 1955.

Assistant Professor of Physics—1958.

Calvin Charles Kuehner (E)
B.Sc., Ohio State, 1949.
M.Sc., *ibid.*, 1950.
Ph.D., *ibid.*, 1953.

Assistant Professor of Biology—1958.

*Rev. Ernest Joseph Lajeunesse, C.S.B. (U)
B.A., Western Ontario, 1923.
M.A., Toronto, 1928.

Professor of Modern Languages—1928.

Rev. Leonard Albert McCann, C.S.B. (U)
B.A., Western Ontario, 1931.
S.T.B., Angelicum (Rome), 1935.
S.T.L., Laval, 1943.
S.T.D., *ibid.*, 1947.

Professor of Theology—1952.

Lillian Margaret McCarthy (U)
B.A., Toronto, 1936.
M.A., *ibid.*, 1937.
Ph.D., *ibid.*, 1943.

Assistant Professor of Modern Languages—1958.

*On leave, 1959-60.

- Rev. Joseph John McCormick, C.Ss.R. (R)
 B.A., Western Ontario, 1947.
 M.A., *ibid.*, 1949.
Assistant Professor of History—1946.
- Rev. David Gordon Macdonald, C.S.B. (U)
 B.A., Toronto, 1948.
 M.A., Toronto, 1952.
Lecturer in Classics—1958.
- Rev. Thomas James McGouey, C.S.B. (U)
 B.A., Western Ontario, 1928.
Lecturer in Psychology—1949.
- Eugene Joseph McNamara (U)
 A.B., DePaul, 1953.
 M.A., *ibid.*, 1955.
Assistant Professor of English—1959.
- *Rev. Robert Joseph Madden, C.S.B. (U)
 B.A., Toronto, 1952.
 M.A., *ibid.*, 1955.
 S.T.B., St. Michael's (Toronto), 1955.
Lecturer in English—1957.
- Mary J. Manley (U)
 B.A., Western Ontario, 1913.
 M.A., Yale, 1928.
 Ph.D., *ibid.*, 1933.
Associate Professor of English—1952.
- Wilburn Raymond Mann (U)
 B.A., Texas, 1947.
 M.A., Catholic U. of America, 1953.
Assistant Professor of Psychology—1953.
- Sister Michael Mary, S.N.J.M. (E)
 B.A., Western Ontario, 1946.
Lecturer in Biology—1949.
- Rev. Robert Grace Miller, C.S.B. (U)
 B.A., Toronto, 1934.
 M.A., *ibid.*, 1935.
 Ph.D., *ibid.*, 1938.
Associate Professor of Philosophy—1941.
- *Marie Lucille Moss (E)
 B.S., Nebraska, 1934.
 M.S., Minnesota, 1944.
Assistant Professor of Biology—1955.
- *On leave, 1959-60.

- Rev. Daniel Joseph Mulvihill, C.S.B. (U)
 B.A., Western Ontario, 1937.
 M.A., Michigan, 1946.
 Ph.D., *ibid.*, 1954.
 Vice-President, Development, 1958.
Professor of History—1942.
- Most Rev. Charles Leo Nelligan (U)
 B.A., Laval, 1926.
 D.D., Bishop of Fenice.
Associate Professor of History and Modern Languages—1947.
- Rev. William Francis Nigh, C.S.B. (E)
 B.A., Western Ontario, 1923.
 M.A., Houston, 1941.
Assistant Professor of Mathematics—1946.
- Rev. Louis Gerard Owens, C.Ss.R. (R, U)
 S.T.L., Angelicum (Rome), 1939.
 Principal, Holy Redeemer College, 1956.
Professor of Theology—1957.
- Rev. Edward Cecil Pappert, C.S.B. (U)
 B.A., Toronto, 1938.
 M.A., Detroit, 1944.
 Ph.D., Ottawa, 1954.
 Director of Extension, 1958.
Assistant Professor of English—1950.
- Sister Pauline of Mary, S.N.J.M. (U)
 B.A., Western Ontario, 1942.
 M.A., Laval, 1954.
Assistant Professor of Modern Languages—1950.
- Rev. Ronald Stanley Pazik, C.S.B. (U)
 B.A., Western Ontario, 1949.
 M.A., Toronto, 1955.
Lecturer in Modern Languages—1955.
- Michael Luke Petras (E)
 B.Sc., 1954.
 M.Sc., Notre Dame, 1956.
Lecturer in Biology—1956.
- Brother Roger Philip, F.S.C., (William James Overend), (U)
 B.A., Toronto, 1917.
 M.A., *ibid.*, 1922.
 Ph.D., Catholic U. of America, 1928.
Professor of Psychology—1956.

- William Gregory Phillips (U)
 B.A., Toronto, 1944.
 M.A., *ibid.*, 1947.
 Ph.D., *ibid.*, 1953.
Professor of Economics and Political Science—1950.
- Homer Frederick Plante (U)
 B.A., Western Ontario, 1934.
 M.A., Toronto, 1948.
Lecturer in English—1956.
- Rev. Raymond D. Powers, C.Ss.R. (R)
 M.A., Catholic U. of America, 1940.
Assistant Professor of Philosophy—1957.
- Rev. Robert Spencer Rayson (C, U)
 M.A., Queen's, 1918.
 S.T.B., General Theological Seminary (New York), 1925.
 D.D., Anglican Theological College of B. C., 1949.
 Principal, Canterbury College, 1957.
Professor of Theology, Lecturer in History—1958.
- Rev. Maurice Adrian Record, C.S.B. (U)
 B.A., Western Ontario, 1935.
 M.A., Toronto, 1949.
Associate Professor of Psychology—1952.
- Florence Martina Roach (E)
 B.S., Seton Hall, 1942.
 Reg.N., 1931.
 R.R.C., 1944.
 R.R.L., 1951.
Dean of Nursing—1955.
- Rev. Norbert Joseph Ruth, C.S.B. (U)
 B.A., Toronto, 1932.
 M.A., *ibid.*, 1947.
 Dean of Arts and Science, 1952.
Special Lecturer in Philosophy of Science—1951.
- Kenneth Gerald Rutherford (E)
 B.A., Western Ontario, 1949.
 Ph.D., Wayne State, 1954.
Assistant Professor of Chemistry—1958.
- Mary Catherine Shaver (E)
 Reg.N., 1945.
 P.H.N. Certif., Toronto, 1947.
 Nursing Ed. Certif., Ottawa, 1955.
 B.Sc.N., Ottawa, 1957.
Instructor in Public Health Nursing—1956.

John Francis Sullivan (U)

B.S., Detroit, 1940.

M.A., *ibid.*, 1947.

Ph.D., Michigan, 1958.

Assistant Professor of English—1958.

Norma Jean (Mrs. R.) Surbeck (E)

B.A., Michigan State, 1955.

M.A., *ibid.*, 1956.

Lecturer in Business Administration—1956.

Conrad Marshall John Fisher Swan (U)

B.A., Western Ontario, 1949.

M.A., *ibid.*, 1951.

Ph.D., Cambridge, 1956.

Assistant Professor of History—1949.

Rev. Peter Julian Michael Swan, C.S.B. (U)

B.A., Toronto, 1938.

M.A., *ibid.*, 1942.

Ph.D., *ibid.*, 1946.

Assistant Professor of Philosophy—1946.

Albert A. Thibault (U)

A.B., Boston College, 1931.

License-ès-lettres, Paris, 1939.

M.A., Harvard, 1942.

Docteur-ès-lettres, Laval, 1953.

Associate Professor of Modern Languages—1953.

Roger Joseph Thibert (E)

B.A., Western Ontario, 1951.

M.S., Detroit, 1954.

Ph.D., Wayne State, 1958.

Assistant Professor of Chemistry—1953.

Rev. William Thomas Traynor, C.Ss.R. (R)

B.A., Laval, 1945.

Ph.L., Angelicum (Rome), 1950.

Assistant Professor of Philosophy—1957.

Paul Ernest Vandall (E)

B.A., Western Ontario, 1949.

Lecturer in Geography—1952.

George Brown Walker

M.A., Glasgow, 1940.

Ph.D., London, 1950.

Professor of Engineering—1959.

- Rev. Arthur Jerome Weiler, C.S.B. (U, E)
B.A., Toronto, 1930.
Lecturer in Modern Languages and Geology—1937.
- Walter LeRoy White, D.F.C. (U)
B.A., Western Ontario, 1951.
M.A., Toronto, 1952.
Assistant Professor of Economics—1956.
- Tze Sun Wu (E)
B.S., National Chiao-Tung (Shanghai), 1941.
M.S., Washington, 1949.
Ph.D., Illinois, 1952.
Associate Professor of Engineering—1957.
- Elias Zakon (E)
Mgr. Phil., Stefan Batory U. (Wilno), 1934.
Dr. jur., *ibid.*, 1939.
Assistant Professor of Mathematics—1957.
- Michael Zin (E)
B.Comm., 1955.
M.B.A., Michigan, 1956.
Assistant Professor in Business Administration—1956.

Sessional and Part Time Appointments

- Gerard Stanley Beneteau (E)
B.Sc., Assumption U. of Windsor, 1957.
Instructor in Chemistry—1957.
- Ivan Galantic (U)
Dipl. di prof. d'Arte, Accad. di Belle Arti, Rome, 1946.
Instructor in Fine Arts—1955.
- William Richard Gee (E)
B.Sc., Queen's, 1956.
Instructor in Mathematics—1956.
- Violet Webb Leach (Mrs. J. D.) (U)
L.C.M., London, 1928.
C. of M., *ibid.*, 1930.
M.A., Wayne, 1950.
Instructor in Music—1943.
- Anne Marie (Mrs. W. R.) Mann (U)
B.A., Bryn Mawr, 1950.
M.A., Catholic U. of America, 1952.
Instructor in Psychology—1953.
- Robert Walter Meanwell (E)
B.A., Western Ontario, 1937.
Chartered Accountant.
Instructor in Business Administration—1954.

Cameron H. Montrose (E)
B.Sc., Queen's, 1920.

Instructor in Engineering—1957.

Adrian Cornelis Padmos (E)
B.A., Western Ontario, 1948.
Barrister-at-law.

Instructor in Business Administration—1953.

Mary Marshall (Mrs. A. A.) Thibault (U)
B.A., St. Joseph's, Brooklyn, 1937.
M.A., Catholic U. of America, 1938.
Dipl. de professeur de Français à l'étranger, Paris, 1939.
Dipl. de l'Institut de Phonétique, *ibid.*, 1939.

Instructor in Modern Languages—1953.

Elizabeth (Mrs. W.) Thompson (U)

Instructor in Physical Education—1954.

Batia Zakon (Mrs. E.) (U)
M.A., University of Vilno, 1936.

Lecturer in Modern Languages—1958.

Department of Extension

In addition to regular members of the staff, the following served as special lecturers:

Evening Classes, Winter 1958-59

Walter Gordon, B.Comm., Cost Accounting
Robert D. Jackson, C.A., Accounting
William C. McIvor, C.A., Accounting
James P. Masterson, C.G.A., C.P.A., R.I.A., Cost Accounting
John C. Mongenais, B.Sc., Business Mathematics
Thomas G. Zuber, B.A., Barr.-at-Law, Industrial Legislation

UNIVERSITY NAVAL TRAINING DIVISION

Lt. Commander John Metcalfe, R.C.N.(R), B.A., Commanding Officer.

Lieut. Thomas Smith, R.C.N.(R.), B.A., Staff Officer.

CANADIAN OFFICERS TRAINING CORPS

Major C. M. J. F. Swan, Ph.D., Officer Commanding.

ROYAL CANADIAN AIR FORCE UNIVERSITY SQUADRON

F/L W. L. White, D.F.C., M.A., Faculty Air Force Representative,
A. U. W.

F/L C. Longmuir, Resident Staff Officer, U. W. O.

HISTORICAL STATEMENT

Assumption University of Windsor traces its origin to the inception of Assumption College, which opened its doors on February 10, 1857. The foundation stone of the first building had been laid on June 17, 1855, largely through the efforts of Father Pierre Point, S.J., pastor of Assumption parish in Sandwich. This Parish, established as a mission in 1748 and raised to the dignity of a parish in 1767, is the oldest in Canada west of Montreal.

Almost from the beginning, education was of great interest to those in charge of Assumption Parish. There are records of an attempt to found a school near the Church as early as 1782; four years later the first elementary school was opened. During the first half of the nineteenth century sporadic efforts were made to establish a secondary school or college, but with short-lived success. These efforts, however, finally led to the establishment of "Le Collège de l'Assomption" in 1857, with M. Theodule Girardot as first instructor.

The College was incorporated by a public Act of the Legislature of the province of Canada which received Royal Assent August 16, 1858. The Corporation consisted of the Bishop of London and the faculty of the College. The Act gave the corporation "full power to make and establish such and so many rules, orders and regulations (not being contrary to the laws of the country or this Act) as they shall deem useful or necessary, as well concerning the system of education in as for the conduct and government of the said College, and of any other institution or school connected with or dependent on the same" (22 Victoria 136).

This Act was passed during the Superiorship of the Basilian Father Joseph Malbos, who guided the College for one year. After his departure the Jesuits, the Benedictines, and the secular clergy were in charge successively. Finally the Basilians returned in 1870, and the vigorous administration of Father Denis O'Connor (later Bishop of London, and Archbishop of Toronto) laid the foundations of the steady progress that has continued to this day.

The curriculum consisted originally of the classical and commercial courses. To these Father O'Connor added two years of Philosophy, giving the institution a complete high school and Arts course. For many decades the prime concern of Assumption was preparing students for admittance to theological seminaries, although many of her alumni entered business and professional spheres.

Early in the present century more formal institutions were established in the area for the training of the clergy, and hence a change of emphasis came in the purpose and curricula of the College. This change led in 1919 to affiliation with Western University, London, Ontario (now the University of Western Ontario). By mutual agreement Assumption College became an integral part of the University's Faculty of Arts and Science. From this time on, Assumption students undertook the same courses and examinations as those in other parts of this Faculty, and received their degrees from the University.

During the next thirty years the curriculum was broadened to include General and Honours Courses in Arts and Science, leading to Bachelor of Arts and Bachelor of Science degrees, graduate work in Philosophy leading to the Master of Arts degree, as well as pre-professional programs such as pre-engineering, pre-law and pre-medicine. In this way the College was enabled to prepare its students for many walks of life.

Opportunities for higher education were extended to the women of this area through the opening in 1934 of Holy Names College by the Sisters of the Holy Names of Jesus and Mary, long prominent in local education. From its inception the new College for women was affiliated with Assumption College, which contributed lecturers and general supervision. After occupying space for sixteen years in St. Mary's Academy, South Windsor, Holy Names College moved to the main campus of Assumption, which now became co-educational through the merging of the faculties and student bodies of both institutions. Holy Names College continued to provide residence and other facilities for women students, and to contribute instructors to the combined faculty.

In 1953 the Ontario Legislature passed an Act amending the original Act of 1858. This legislation established a new government for the College, consisting of a Chancellor, President, Board of Governors and Senate. It stated further, "The College shall have university powers, including: (a) The power to establish and maintain such faculties, schools, institutes, departments, chairs and courses of instruction as may be determined by the Board; (b) The power to confer university degrees and honorary degrees and awards in any and all branches of learning." As a result, affiliation with the University of Western Ontario came to an end, and Assumption College resumed operation as an independent institution, July 1, 1953.

In June, 1954, the College was admitted to full membership in the National Conference of Canadian Universities, and later the same year, to the University Matriculation Board of Ontario and the Association of Universities of the British Commonwealth.

In January, 1956, Essex College, under non-denominational control, was affiliated with the Faculty of Arts and Science as a Senior College of Pure Science offering courses in the natural sciences, mathematics, engineering, nursing education and business administration. The remaining departments of this Faculty were grouped into an academic unit known as University College, under the direct control of the University's Board of Governors. In February, 1956, Holy Redeemer College, the seminary of the Redemptorist Fathers, was affiliated with the Faculty of Arts and Science and authorized to give instruction leading to Bachelor of Arts degrees. In March, 1956, the Ontario Legislature passed an act which changed the name of Assumption College to Assumption University of Windsor.

In November, 1957, Canterbury College, an Anglican liberal arts college, was affiliated with the University and empowered to offer its own courses of instruction in history, philosophy and theology.

GENERAL INFORMATION

LOCATION

Assumption University of Windsor is situated on a beautiful hundred-acre campus south of the historic Detroit River and east of the towering steel structure of the Ambassador Bridge, which forms a physical link between Canada and the United States. The adjoining century-old Assumption Church, centre of the oldest parish in Windsor, symbolizes the ancient religious traditions which today still permeate and vitalize the industrial environment in which the University exists.

BUILDINGS

The steady growth of the University is illustrated by the gradual increase of the number of buildings on the campus. The Administration Building facing Huron Line and the Canadian approach to the Ambassador Bridge is the oldest building on campus. It was commenced in 1855 and completed in 1908. This building contains administrative offices, staff residences and Chapel. Also facing Huron Line are the temporary buildings acquired in 1946 and 1958. On the west side of Patricia Road is Dillon Hall (1926) and the present Essex College building erected in 1948 as a memorial to Assumption alumni who gave their lives in World War II. Linking these two groups of buildings are St. Michael's Hall (men's residence) and St. Denis Hall erected in 1915—the latter enlarged in 1948. Just north of Essex College is the University Library opened in 1958, and (across University Avenue) the Holy Names College (women's residence) opened in the same year. On the east side of Patricia Road are former private residences now used by Essex College's departments of nursing and business administration, and by Canterbury College.

SCIENCE FACILITIES

Essex College contains facilities for the study of Physics, Chemistry, Biology, Geology and Mechanical Drawing. The Physics department has separate laboratories for mechanics and heat, electricity, light and acoustics, with four soundproof cubicles equipped as dark rooms. The Chemistry Department has inorganic, organic, physical and analytic laboratories. There are special laboratories for botany and zoology fully equipped with modern microscopes; and a bacteriological laboratory with autoclave and incubator. In each department there is a large lecture hall fully equipped for sound and motion picture projectors. Two of the main scientific attractions are the zoology museum with its many recent acquisitions from foreign countries, and the animal room. The geological laboratory has samples of rocks and minerals from all over the world, with

emphasis on Canadian minerals from the mining towns of the west and north. The physical acquisitions of the geological laboratory are complemented by colour slides, movies and geological photographs, in addition to an up-to-date geological library. Two large rooms suitably equipped are available for mechanical drawing. East of Essex College are greenhouses which provide ample material for work in botany.

DILLON HALL

Dillon Hall provides lecture room and office facilities for the departments of University College. The Psychology Department has a suite for testing purposes and consultation. Laboratories and lecture rooms are provided for instruction in Household Science.

LIBRARY

The present Assumption University Library was completed in 1958. Modular in plan, it is 90 feet wide, 190 feet long, and four stories high. It provides shelving for 350,000 volumes and has a seating capacity of 500 students. The open stack arrangement follows the modern practice of placing readers among books.

Within the entrance lobby is the main circulation desk, the focal point of the library. At this desk books are circulated and returned and reserve books are loaned from closed shelves. The librarians' offices and cataloguing department are adjacent to the desk area, so that the library staff are readily accessible to both students and faculty.

From the lobby there is ready access to the public catalogues, the open stack books, the reading and reference rooms. In the Main Reference room there are available for consultation reference works, bibliographies, periodical indexes, current and bound periodicals, government documents, pamphlets and clippings, maps, microfilms. Reference librarians are present to assist with reference problems.

The science collection consisting of books, current and bound periodicals, abstracts and indexes, the office of the science librarian and reading and private study rooms are on the mezzanine floor.

Special library facilities for faculty and students include study carrells in the stacks, browsing and display areas, seminar rooms, faculty studies. A combined audio-visual and lecture room on the third floor provides all necessary audio-visual equipment and seating for 200 persons. Here the Library Science lectures are given, and here professors may plan class lectures when either 16 mm. films, filmstrips, pictures or book displays are required.

The Library is intended for purposes of reading and serious study; quiet must be observed at all times. Since smoking space has been provided smoking is not allowed in the Reading and Reference rooms, Seminar rooms or stairways. Failure to maintain a suitable

standard of conduct in the Library, or failure to observe any of the Library's rules and regulations will lead to action, after due warning from members of the Library staff, by the Library Board.

The Hallmark of any great university is the possession of a library—a library that has grown with the passing of the years, so that it is more than a mere repository of the wisdom of men and women of all nationalities and all ages, but itself proclaims the true purpose of a university to spread learning and to encourage scholarship. This purpose is proclaimed in the motto of the University, "Teach me Goodness, Discipline and Knowledge", carved in stone at the entrance to the Library.

CHRISTIAN CULTURE SERIES

Assumption brings each year to the campus a group of distinguished lecturers and artists in its Christian Culture Series. This series, established in 1934, is non-profiting, and is supported by subscriptions and donations. The University is happy to be able to make this contribution to the cultural life of the border cities, and donates the services of a member of its faculty to the promotion of the Series.

THE STUDENT CENTRE

One of the most popular and widely used buildings on campus is the temporary Student Centre, former barracks donated by the Canadian Government to enable Assumption to meet the demands of increased postwar registration. In the Centre is the Cafeteria, the Student Lounge with its recently installed Little Theatre, the offices of the Students' Administrative Council, and the Press Rooms where the LANCE and the AMBASSADOR (the University paper and year-book) are issued. The Centre also contains a Drama and Games Room where minor activities and rehearsals for Glee Clubs and Dramatics are conducted.

STUDENT ACTIVITIES

The Students' Administrative Council directs and administers all extra-curricular activities and publications in which the interest of students at Assumption University of Windsor are involved. The Council receives and administers all funds accruing from the fees collected by the University for student activities, and promotes inter-university functions when deemed advisable.

The Students' Administrative Council encourages and subsidizes various clubs and societies which offer opportunities to each student to explore the various realms in which he is especially interested. On the religious side there are the Young Catholic Students' Society, the Mission Society, the Legion of Mary, and the Sodality. For the musically inclined there are the Glee Club, the Music Appreciation

Society, and the Musicals sponsored by the Dramatic Club. The Assumption University Players foster three-act plays and a festival of one-act plays each year, plus minor offerings during the year at various functions. There are also the Law Club with its affiliations with Windsor lawyers and law courts, the German Club, the French Club, the Biology Club, the Chemistry Club, and the Psychology Club.

In addition there are organizations which offer inter-university cooperation such as the newly organized United Nations Club, the World University Students (W.U.S.), and the Canadian Federation of Catholic College Students. To students interested in Journalism the Students' Council offers a chance for active participation and experience on the school paper, the "Lance," and the Year Book, the "Ambassador". The democratic nature of student activities is well illustrated by the production of these publications. The students control their own finances and are responsible for advertising as well as the newsgathering and literary aspects of publishing.

One of the most successful social-educational organizations on campus is the Lenten Campus Forum, with its panel of students discussing current problems, and its use of student talent for entertainment purposes. For those interested in cultural experiences there is also the weekly Library Hour with its musical and dramatic recordings and the pleasant social discussion that follows.

One of the striking characteristics of Assumption's life is the close and friendly cooperation of students and faculty on a level which transcends the artificial barriers that sometimes lie between faculty and student on the university level. The intimacy that results serves to round out and integrate the education that the student receives in the lecture hall. This spirit has been characteristic of the Basilian mode of education for over a century.

DISCIPLINE

While student activities are democratically conducted with a view to the personal participation of the students in the actual running of affairs, nevertheless the Board of Governors recognizes its responsibility to maintain discipline and enforce regulations in matters affecting the academic progress and the conduct of students. The Board delegates the Dean of Arts and Science as its representative in matters academic, and the Dean of Men and the Dean of Women as its representatives in all other disciplinary matters.

The name of the University may not be used in any publications without the permission of the Dean of Arts and Science. No class or group of students may engage in any public effort as a body representing the University or any organization within the University, without the permission of the Dean.

The constitution of any proposed club or society must be presented to the Board of Governors for its approval by the Students' Administrative Council before such organization can be recognized.

ATHLETIC FACILITIES

St. Denis Hall, the athletic building, contains a gymnasium with three floor-courts and one of the largest basketball floors in Canada. Its efficient facilities enable Assumption to continue as one of the country's leading basketball powers. Equipment is available for weightlifting, badminton, and wrestling. The swimming pool and dressing rooms complete the physical attributes of the gymnasium. The campus provides ample space for football, tennis and other sports. These athletic facilities are augmented by the off-campus use of the Windsor Hockey Arena and adjoining bowling alleys.

Intercollegiate athletics are supervised by the Board of Control of Intercollegiate Athletics, whose members are made up of the President, the Local Council, the Dean, the Registrar, the Bursar, the Faculty Moderator, the Athletic Director, the Coaches, three non-faculty lay members, and a senior undergraduate representative. Assumption, long a member of the Central Canadian Intercollegiate Union grouped in the southwestern Conference, has recently been admitted to competition in Senior Intercollegiate Basketball in the Ontario-Quebec Conference with the Universities of Toronto, Queen's, McGill, McMaster, and Western Ontario.

Intramural athletics are under the supervision of the Intramural Athletic Council, whose members consist for the most part of undergraduates, and which sponsor an extensive athletic program. Basketball, football, hockey, golf, swimming, track and field, judo, bowling and tennis are a few of the sports available.

MILITARY TRAINING

Students may apply for training in one of the three Armed Services: the University Naval Training Division, the Canadian Officers' Training Corps, and the RCAF University Squadron. Suitable candidates for each service will be trained for commissioned rank.

Regular Officer Training Plan (ROTP)

Under the ROTP, undergraduates who are successful applicants are enrolled in the service of their choice, as Naval Cadets in the Royal Canadian Navy, Officer Cadets in the Canadian Army, and Flight Cadets in the Royal Canadian Air Force.

Applicants must be Canadian citizens or British subjects, single and under 21 at commencement of university or college training. If application is made prior to entry at university or college, it should be sent in writing to ROTP Selection Board, National Defence Headquarters, Ottawa, Ontario. If it is delayed until after admission to university, apply to the representative of your preferred service.

For successful applicants the cost of books, instruments, tuition and other essential fees will be borne by the Department of National Defence. The scale of pay and allowances under this plan is:

- (a) During the academic year, pay of \$55 a month and subsistence of \$65 a month, for a total of \$120 a month.
- (b) During the period of practical summer training, pay of \$55 a month and subsistence provided by the Armed Services.

On successful completion of academic and military training, cadets will be promoted to Commissioned Officer rank in the Regular Force. The privilege of release, if desired, will be honored after three years' service as a commissioned officer.

University Naval Training Division

The Royal Canadian Navy hopes to secure the majority of its officers from the Universities. Undergraduates with or without previous experience may receive NAVAL TRAINING through the University Naval Training Divisions (U.N.T.D.). After the successful completion of their courses they may obtain commissions in the R.C.N. or the R.C.N.(R).

Applicants for training under the R.O.T.P. for service with the Royal Canadian Navy will train with the U.N.T.D. For further particulars regarding the R.O.T.P., see the details included in the above plan which is applicable to all Services.

The course consists of sixty hours training during the academic year, for three years, and fourteen weeks training ashore and afloat for two summers. Cadets may volunteer for additional service. Students enter as Probationary Cadets and in their first year appear before a Cadet Selection Board for promotion to the rank of Cadet.

Pay is at the rate of \$185.00 a month. For training during the academic year Cadets are paid one half day's pay for each training period up to a maximum of 32 days' pay. On entry, uniforms are issued; and for summer training, board, lodging, medical care, dental care, and travelling expenses are provided.

The R.C.N. is hoping to build up a body of well-trained personnel who will be available for special services in cases of emergency. The U.N.T.D. provides the opportunity for obtaining valuable training and instruction useful in peace or war.

Information and application forms are available in the U.N.T.D. office, H.M.C.S. Hunter, Windsor, Ontario, and from the Commanding Officer, U.N.T.D., Assumption University of Windsor, Windsor, Ontario.

Canadian Officers' Training Corps

1. Canadian Officers' Training Corps offers undergraduates a unique opportunity to qualify themselves for commissions in the Cana-

dian Army, either Active or Reserve, through a training program especially designed to meet their requirements.

2. Students are eligible who are:
 - (a) British subjects or Canadian citizens between the ages of 17 and 25; these requirements may be varied to allow a higher age of entry for men who were on active service during the war, 1939-45, and those entering special Corps.
 - (b) Of a physical standard suitable for the Canadian Army Active Force.
 - (c) Following a course of study leading to a recognized degree.
3. Training provided is in two parts:
 - (a) Two hours per week of lectures on theoretical military subjects during the academic year.
 - (b) Twelve to twenty weeks of practical training during the summer, depending upon length of vacation period and candidate's choice. Training will be as follows:
 - (i) First and second years—at Corps Schools of the Canadian Army Active Force.
 - (ii) Third year—practical leadership in charge of a troop, section or detachment at an Active Force Unit or camp.
4. Students accepted for COTC training are granted the rank of Officer Cadet during the first two years and in the third year are appointed as 2nd Lieutenants. They are eligible for pay of rank (\$185.00 per month) for every full day of military duty. For this purpose four hours of lectures during the academic year count as one day's duty, as well as each day spent at summer camp up to a maximum of 22 weeks.
5. Candidates should apply to the following officers:
Major C. M. J. F. Swan. Assumption University of Windsor, Windsor, Ontario.

RCAF University Reserve Training Plan (URTP)

Under this plan students admitted to a squadron are appointed to the rank of Flight Cadet and hold that rank until commissioned as Pilot Officers at the end of the third summer of training. As Flight Cadets and Pilot Officers they are paid at the rate of \$185 a month during the summer months and up to sixteen days' pay for attendance at winter training lectures. Those accepted for aircrew training will receive an extra \$30 a month during the summer flying training. Upon graduation personnel are promoted to Flying Officer and given the option of service with the Regular Force or going into the Supplementary Reserve, where they are on call only in case of national emergency.

Training in each cadet's particular field (i.e. Aircrew, Supply, Telecommunications, etc.) will take place during summer employment on air force stations.

For information and application forms see F/L W. L. White, the RCAF Representative on your campus. Those interested are advised to make application as soon as possible after registration.

STUDENT SERVICES

HEALTH: An infirmary with a qualified nurse and a visiting staff doctor is provided for the administration of first aid and the treatment of minor ills; the Windsor hospitals are also available for more serious ailments.

Prior to initial registration, each full time student is required to submit, on a personal health record form, provided by the Registrar's office, a certificate of medical examination performed by his family physician. No student may participate in any athletic activities unless his physician has certified his physical fitness.

The University is not responsible for expenses incurred as the result of injuries sustained by students while participating in athletic activities. Information regarding available accident insurance may be had on request from the Treasurer's office.

EMPLOYMENT: A placement bureau provides assistance in the obtaining of summer work and permanent employment upon graduation, and to a limited extent part time employment during the academic year. The University recognizes that some students must supplement their income by part time employment during the academic year; it wishes to point out however, that unless such employment is kept to a minimum, both the student's health and academic standing may suffer. ~~In any case students who must work long hours do not derive full benefit from their university experience. A student in such circumstances would be better advised to obtain a loan, or alternatively to postpone his university education until such time as he can afford to devote his full time to the many facets of university life.~~ (See also p. 61).

The Student Placement Bureau cooperates closely with National Employment Service and the Civil Service Commission of Canada.

RESIDENCE FACILITIES — Men: The University offers on-campus residence for students from out of town. The University feels that the experience in social living thus obtained is an integral part of contemporary education, and so obliges all students not living at home or with close relatives to live in residence for at least one year. This period may be lengthened at the discretion of the Board of Governors as more facilities become available. In addition, any student from out-of-town receiving any financial award within the

jurisdiction of the University is obliged to live on campus during the academic year for which the award is made. By making application for residence, each student implicitly agrees to abide by all regulations. A copy of the general regulations for resident students is available on request. For Senior students who wish to live off campus, the University maintains a directory of suitable homes which provide room and board or room only. The directory is available in the office of the Dean; each student must live in a house listed in the official directory, and must inform the Dean of his choice of residence and of any subsequent change.

Women: A residence is maintained by the Sisters of the Holy Names on the campus. All women not living at home or with immediate relatives are obliged to live in this residence. For details, reservations, etc., contact the Principal of Holy Names College, 265 Patricia Road, Windsor.

FOOD: The University maintains a Cafeteria, and there are restaurants available for students close to the campus.

COUNSELLING AND GUIDANCE: Each student on registration is assigned a member of the staff as a counselor, who is prepared to give advice on academic matters at all times. Students are free to approach any member of the administrative or instructional staff of the University regarding their education programs, their choice of careers, and their own personal problems. The Psychology department in particular is prepared to offer technical assistance in vocational guidance. Occasional lectures on specific occupational fields are arranged from time to time.

ANNUAL RETREAT: A traditional feature of student life at Assumption is the annual students' retreat, held on the first Thursday and Friday of Lent. Special missionaries are engaged for this purpose. Classes are not held during this brief period, so that students may devote themselves to their spiritual affairs. Every Catholic student is obliged to attend all the exercises of the retreat. Canterbury College (Anglican) also offers a retreat at this time.

SUMMARY OF REGISTRATION, 1958-59

Regular Winter Session

	Men	Women	Total
Full Time:			
Preliminary Year	105	25	130
Nursing Diploma Year.....	0	15	15
First Year	248	55	303
Second Year	220	38	258
Third Year	147	34	181
Fourth Year	6	3	9
Graduate Years	16	0	16
	742	170	912
Part Time	24	10	34
	766	180	946

Extension Courses

~~Summer School~~	~~184~~	~~83~~	~~267~~
Evening and Saturday Morning.....	471	169	640
Non-credit	207	66	273
	862	318	1180
Gross Totals	1628	498	2126
Duplicates	96	34	130
Net Totals	1532	464	1996

FEES

Fees are subject to change without notice. All fees are for the academic year, except where otherwise indicated.

Full Time

The following schedule lists the minimum amounts payable, including registration, tuition, library, science laboratory, examination, graduation, university center and student activities fees.

Arts	\$375
Household Science, Nursing, Pure Science.....	405
Commerce or Business Administration.....	425
Engineering	475
Preliminary Year (all courses).....	390

Part Time

Tuition, per subject: Undergraduate	75
Graduate	100
Science laboratory fee, per subject.....	20
Incidental fees: Library, registration, examination, graduation, university center	25

Miscellaneous fees (payable by all students as incurred)

Language laboratory, per subject.....	10
Psychology laboratory, per subject.....	10
Late Registration: Full-time	20
Part-time	5
Graduation "in absentia"	10
Special and supplemental examination, per subject:	
Regular time and place.....	10
Outside regular time and/or place.....	20
Change of course.....	2
Transcript of record	1
"Pro Tanto" allowance (for transfer of credit).....	10
Non-resident fee (payable by all students resident outside the British Commonwealth of Nations) \$20 per subject to a maximum of.....	100

- N.B. (i) Graduate students do not pay student activities' fees. Part-time graduate students pay incidental fees and (in Science programs) laboratory fees each year; they will not, however, pay more tuition than they would have paid if they had proceeded towards degrees as full-time students.
- (ii) For fees in the Evening and Saturday Morning Division and Summer School, see their respective announcements.

Residence Fees

Room and Board—per academic year..... \$600
An extra charge of \$15 is made if the residence fee is paid in two instalments.

Each student who wishes to live on campus must send to the Registrar's Office prior to September 1st a deposit of \$25. Upon receipt of this deposit a contract containing detailed conditions governing room and board will be mailed to the student. A deposit will be refunded if the reservation is cancelled prior to September 1st.

A student who withdraws from residence during the academic year may receive a refund only when such withdrawal is occasioned by circumstances beyond the control of the student and has the prior approval of the Dean of Men or of the Dean of Women.

Payment of Bills

Unless otherwise requested, the University presents its bills directly to the student, who assumes responsibility for their payment when due. All fees for the academic year are due and payable on the first day of registration. **REGISTRATION MAY NOT BE COMPLETED UNTIL THE FEES ARE PAID.**

When fees are paid in two instalments, half the fees are due on registration day, and the remaining half on the first day of the second semester. For this service an extra charge of \$5 is exacted of full-time students and \$2 per subject for part-time students. A charge of \$1 per day (to a maximum of \$10) is made for late payment of fees (both semesters).

Failure to pay an outstanding account will bar a student from writing examinations or obtaining credits for previous work.

A reduction is made in the tuition fees of brothers and sisters attending the University simultaneously as full-time students.

Withdrawal and Refund Policy

Students who are forced to withdraw from a course or from the University, are required to notify the Registrar and Bursar in writing and to give their reasons for withdrawal. The obligation of teaching and accommodating a student rests on the University on a yearly basis. Hence:

- (1) All tuition credits or refunds shall be made entirely at the discretion of the University.
- (2) Credits or refunds will be made in the following cases only:
(a) Cash refunds may be granted in cases where students are compelled to withdraw on account of serious and continued personal illness. (b) Cash refunds may also be granted in cases where the student is compelled to withdraw for other personal reasons provided these are satisfactory to the University authorities.
- (3) Tuition not refunded or used may, if a Credit Note is secured from the Bursar, be applied upon subsequent courses pursued in the University, provided such courses are taken within two years of the date of withdrawal of the student.
- (4) The portion of the fee refunded is determined by the date of application for refund—NOT THE DATE OF WITHDRAWAL.
- (5) No application for refund will be considered if received after October 26, in the fall semester, or after February 15, in the winter session.

FINANCIAL AID FOR STUDENTS

1. The University welcomes the offer of scholarships, prizes, medals, bursaries and loan funds.
2. Scholarships, prizes, medals, bursaries and loan funds may be accepted from donors at the discretion of the Senate on appropriate recommendation of the President. Awards of scholarships, prizes and medals will be made by the Senate to qualified candidates of merit, but the Senate may withhold any such award if no candidates of merit present themselves. The award of scholarships, prizes and medals shall be final when formally announced by the University.
3. (a) No limitation shall be placed upon the number of prizes and medals which any one student may win in any one year. (b) A student may be declared the winner of as many scholarships as he may win as a qualified candidate of merit, but in the case of awards carrying a major financial amount, such student will normally receive the proceeds only of the largest among these major amounts. (c) Winners of scholarships and prizes may resign the monetary value but retain the honor of such awards, and their names will be published as winners. In cases arising under 3(b) or 3(c), the monetary amounts so relinquished may be awarded by reversion if merited.
4. Undergraduate scholarships and bursaries under the jurisdiction of the University will ordinarily be paid in two instalments, one in October and one in January and provided that the winners are continuing in their courses to the satisfaction of the University. If the work of a student in the first term has been unsatisfactory payment for the second term may be withheld.
5. The University does not guarantee the award of any scholarship, prize, medal or bursary other than those created from funds of the University. Those awards based upon gifts of individuals or associations other than the University will be awarded only after the funds required have actually been received from the donors.
6. A student who has received a scholarship or bursary within the jurisdiction of Assumption University of Windsor may not receive, without permission of the Board of Governors, an official transcript of record prior to graduation, unless he or she repays the entire amount of such assistance.
7. Most of the awards listed below are restricted to students attending Assumption University of Windsor. A few others, which may be held at Assumption as well as other Universities, are included because of their particular interest to our students. For additional information concerning this latter type of award, see the Dominion Bureau of Statistics publication, "University Entrance Awards", a copy of which may be consulted in the Registrar's Office.

SCHOLARSHIPS AND BURSARIES

In general, the term scholarship signifies an award made because of academic excellence, frequently without relation to financial need, whereas a Bursary is awarded to a student with good academic standing and financial need. The distinction between the terms, however, is not rigid.

Unless otherwise indicated, applications for the following awards are to be made to the Registrar (in the case of new students, prior to May 1; in the case of returning students, between September 1 and 15). An applicant need not specify which award he wishes to receive, except in the case of an award designated below by an asterisk (*), and whose bestowal depends upon the fulfilment of special requirements. The amount of each award may vary with fluctuating economic conditions. Recipients are free to choose any course for which they have the necessary prerequisites, unless otherwise stated.

University Proficiency Scholarships (14).

***Type A (4)**—Awarded on 9 Grade XIII papers, with 75% average; \$300 off tuition for four years; total possible value \$1,200. Two awards are offered residents of Windsor or Essex County, one to a resident of Ontario, and one to a resident of Canada. (An applicant from Quebec or the Atlantic Provinces may apply on the basis of Departmental Junior Matriculation).

***Type B (2)**—Awarded on 9 Grade XIII papers, with 75% average on any 6. \$200 off tuition for 2 years; total possible value \$400.

Type C (8)—An award of \$200 off tuition the following year to the students standing highest in each year of Arts, Commerce and Science; 75% average required. The recipient may not be already enjoying a continuing scholarship, and must use the award in the year immediately following.

*Friends of Assumption Foundation, Inc., Scholarships (2)

Value: \$500 per year, renewable for a maximum of 4 years, provided the recipient maintains an "A" average in a general course or second class honours in an honours course. An applicant must be an American citizen and a U. S. resident; be in the top quintile of his class; take the Scholastic Aptitude Test offered by the College Entrance Examination Board.

Assumption University of Windsor Scholarship Fund.

Name of Award	Donor	Founded	Amt.
Fred H. Anderson Memorial Scholarship	Gotfredson Ltd. and Canadian Fabricated Products Ltd.	1955	\$250
Father Henry Bellisle, C.S.B., Memorial Bursary	Former students	1954	300
Dr. Roy Coyle Memorial Bursary	Estate of Dr. Roy Coyle (late member, Board of Regents)	1956	300
Edmund Girardot Memorial Bursary	Friends	1958	200
Father Edward Hartmann, C.S.B., Memorial Bursary	Colleagues	1958	200
G. Hayward Jones (Class of 1942) Memorial Bursary	Friends	1946	100
Msgr. F. X. Laurendeau (Class of 1899) Memorial Bursary	Friends	1944	150
J. C. McGuire Memorial Scholarship, and	J. C. McGuire (late member, Board of Regents)	1949	250
J. C. McGuire Memorial Bursary		1952	200
Donald Stuart McIntyre (Class of 1896) Scholarship	D. S. McIntyre	1957	300
Frank McIntyre (Class of 1896) Memorial Bursary	Frank McIntyre	1955	300
Mrs. Fred D. Pearson Memorial Bursary	Mrs. F. D. Pearson	1945	300
Father W. J. Storey, C.S.B., Memorial Bursary	Former students	1958	200
*Ellen Sullivan Memorial Scholarship, and	Msgr. F. T. Sullivan	1943	535
*Msgr. F. T. Sullivan (Class of 1894) Scholarship		1945	535
Father R. S. Wood, C.S.B., Memorial Bursary	Friends	1958	200

*Restricted to graduates of Notre Dame High School, Chattanooga, Tennessee.

Assumption Alumni Awards.

These awards were established by the Alumni Association in memory of former Presidents and professors.

Memorial Bursary in memory of former professors.....	\$250
Scholarship honouring former living Presidents.....	300
Father Daniel Cushing Memorial Scholarship.....	200
Father Daniel Dillon Memorial Bursary	200
Very Rev. Francis Forster Memorial Scholarship.....	300
Father Francis Hewlett Memorial Bursary.....	250
Father Robert McBrady Memorial Scholarship.....	200
Archbishop O'Connor Memorial Bursary.....	300
Father William Rogers Memorial Bursary	400

*Pre-theological Bursaries.

The following were established at the dates and by the donors indicated below for the benefit of students preparing to enter the priesthood:

1880, Rev. Jeremiah Ryan of Oakville, Ontario.....	\$432
1893, Rev. Francis Marseille of River Canard, Ontario.....	480
1898, Miss Philomena Brand of Monroe, Michigan.....	480
1900, Mr. and Mrs. J. H. Hanley of St. Joseph's, Michigan	288
1902, Rev. Peter D. Laurent of Lindsay, Ontario.....	384
1923, Rev. Luke Renaud, C.S.B., of the class of 1879.....	768
1934, Rev. F. X. Semande, C.S.B., of the class of 1876.....	768

The Women's Auxiliary to Assumption University of Windsor Bursary.

Value \$100. Awarded annually to a student in the humanities.

*Dominion-Provincial Student-Aid Bursaries, Type A.

Applications and terms of qualifications may be obtained from secondary school principals or the Registrars of the Departments of Education of the various provinces.

Dominion-Provincial Student-Aid Bursaries, Type B.

These bursaries ranging up to \$400 are for students resident in Canada who have already completed at least one year of university work, are in financial need and have obtained averages of 66%, or better, the previous year.

*The Atkinson Charitable Foundation Entrance Bursaries.

Value: \$400 for students living away from home, \$200 for students residing within commuting distance of the University.

Candidates must be residents of Ontario and in need of financial assistance. They must obtain an average of at least 66% on eight Ontario Grade XIII examination papers, be qualified for entry to the degree course of their choice, and be sponsored by their high school principals. Application should be made through the high school principal.

Atkinson Charitable Foundation "In Course" Bursaries.

These awards are made to deserving students who have already completed at least one year of university work, and show evidence of academic sincerity, future promise and financial need. Applicants must be residents of the Province of Ontario.

The Chemical Institute of Canada (Essex-Kent section) Bursary.

Value: \$100. Awarded annually to a Grade XIII student in Essex or Kent counties, with second class honours in Mathematics, Chemistry and Physics, who registers in a course leading to the degree of Bachelor of Science in Chemistry. Established 1955.

The Rhea Bray Memorial Bursary.

Value: \$150. Awarded annually, on the basis of academic merit and need, to a woman student (preferably a freshman) recommended by the Dean of Arts and Science and approved by the Committee on Student Awards. In rare cases may be assigned to the same recipient two years in succession. Established in 1955 by the Zonta Club of Windsor.

The Odette Bursary in Engineering.

Value: \$200. Awarded annually at the discretion of the Committee on Student Awards to a deserving student in Engineering. Established in 1955 by Mr. L. L. Odette, Sr. of Tilbury, Ontario.

The Legris Bursary.

Value: \$50, established in 1955 by Judge J. A. Legris.

The Pennington Bursary.

Value: \$100, donated in 1956 by J. C. Pennington of Windsor, Ontario.

The Sister M. Electa Memorial Bursary.

Awarded to a woman with satisfactory scholastic standing who is in financial need. This award excuses residence fees (up to \$100) for one year.

The Catholic Women's League of London Diocese Bursary.

Value: \$100. Awarded to a woman with satisfactory scholastic standing who is in financial need.

***The Navy League of Canada Bursaries.**

Value: \$250. A number of awards are made each year across Canada to Sea Cadets entering universities and enrolling in the U. N. T. D. For details, applicants may consult the Commanding Officers of their respective Sea Cadet Corps.

***The Naval Officers Association of Canada (Windsor Branch) Bursary.**

Value: \$150. Awarded annually to a member of the University Naval Training Division, who has completed successfully the first year of his training. For details, consult the Commanding Officer, Assumption U. N. T. D.

The Windsor Junior Chamber of Commerce Bursaries.

Value: \$100. Two awards may be made each year to male students of the Windsor area who have already completed one year of university studies at Assumption University of Windsor. Applicants must show evidence of academic achievement and financial need.

***The Windsor and District Labour Council Bursary.**

Value: \$300. For children of T.L.C. unionists or other unionists. Applicants must be in financial need and have at least "B" averages. Preference to freshmen.

The Nathan Tepperman Bursary.

Value: \$200. Awarded annually on the basis of scholastic ability or character or financial need or any combination of the foregoing according to the best judgment of the Committee on Student Awards to a deserving student in any year of any course. Established in 1956 by associates of Mr. Nathan Tepperman of Windsor, Ontario.

The Queenie H. Shirley Memorial Scholarship.

Value: \$200. Awarded annually on the basis of scholastic ability or character or financial need or any combination of the foregoing according to the best judgment of the Committee on Student Awards to a student who has completed Preliminary Year Science at this University, or Grade XIII and enters First Year Engineering or

Science. Established in 1955 by Dr. Frederick Shirley in memory of his wife, Dr. Queenie H. Shirley, at the time of her death an instructor in physics.

***H. J. Heinz Co. Scholarship.**

Value: \$300 a year for a maximum of 4 years. Awarded to a Grade XIII student attending a district high school of Essex and Kent Counties. Apply to the Principal of the High School.

***Hiram Walker and Sons Scholarships.**

Value: \$850 a year, for a maximum of four years. Awarded to children of employees. Apply to Public Relations Department, Hiram Walker and Sons Ltd., Walkerville, Ontario.

**The Walkerville and East Windsor, Branch 12,
Canadian Legion, B. E. S. L., Bursary.**

Value: \$250 for two years. Applicants must be residents of Windsor (or children of members of Branch 12). For other conditions of award and application forms, apply to the Registrar of the University.

Windsor Insurance Agents Association Bursary.

Value: \$200. Awarded annually to a deserving student.

For bursaries offered to students in nursing by the Provincial Department of Health, the Victorian Order of Nurses, the Women's Auxiliary to Grace Hospital, the Imperial Order Daughters of the Empire, Hotel Dieu Nurses Alumnae, and others, consult the Dean of Nursing.

OTHER FORMS OF ASSISTANCE

Provincial Student Aid Loans.

Loans are available from this fund to enable Ontario students who have achieved a 60% average on their previous year's work, to undertake or to continue university courses. Maximum amount for 1 year: ordinarily \$500; maximum amount for all years: ordinarily \$2,000. The loan is without interest until April 1 in the year following graduation or withdrawal; thereafter, interest at 4% per annum is charged on the unpaid portion. For details, apply to the Registrar.

The Harry E. Carling Student Loan-Fund.

Small sums may be borrowed from this fund by students in good standing who have commenced their studies, but face the possibility of withdrawal as a result of financial difficulties. For details, consult Registrar.

The Harry F. Bennett Education Fund of the Engineering Institute of Canada.

Loans are available from this Fund to enable deserving students who have completed at least one year in engineering to complete their studies. Maximum amount for one year: \$250; maximum for all years: \$450. The loan is without interest until graduation; thereafter interest at 4% per annum is charged on the unpaid portion. For details apply to Mr. R. G. Billingham, E. I. C. faculty representative on campus.

The Children of War Dead (Education Assistance) Act.

Passed on July 1, 1953, this Act provides assistance towards an education beyond secondary school level for sons and daughters of veterans whose deaths were attributable to service in World War I, World War II, or the Korean operations. If the application is approved the Department of Veterans Affairs will pay

- (a) to the student, an allowance of \$25 per month for the period during which he or she is pursuing a full time course, up to a maximum of 36 months;
- (b) to the university fees and other costs of tuition as described in the Act, up to a maximum of \$500 per academic year.

For further details consult the local office of the DVA, or the Registrar.

Transportation Assistance.

Full-time students who reside in the territorial districts of Ontario may apply to the Minister of Education once per annum for

sums representing the round trip special student coach-fare less ten dollars from the railroad stations nearest their homes to Windsor. For details, consult the Registrar.

United States Veterans' Benefits.

Qualified United States veterans attending this University may receive certain benefits through the provisions of various Public Laws. For conditions and details, consult the Registrar's Office.

Student Aid Foundation of Michigan.

Students living in metropolitan Detroit, Windsor and Essex County may receive grants and loans for use at this University on the basis of academic record, character and financial need. Applicants should contact the Student Aid Foundation of Michigan, 2486 National Bank Building, Detroit 26, prior to January 15.

PRIZES

The Dr. Roy J. Coyle Memorial Prizes.

Prizes of \$50 each are awarded annually to the students with the highest standings in Zoology 10 and Physics 13. Endowed by the late Dr. Roy J. Coyle of Windsor, Ontario.

The Helena M. Coyle, B.A., Prize.

The interest on \$1,000 is offered annually as a prize to the student with the highest standing in English 15.

The Board of Governors Medals.

Awarded annually to students graduating with the highest standing in each of several courses, as recommended by the Dean of Arts and Science, and to the undergraduates with the highest standing in each year, regardless of course.

The H. A. Scarff Memorial Prize.

A prize of \$50 awarded annually to the student with the highest standing in Business Administration 250. Established in 1957 by friends of the late Mr. H. A. Scarff, former member of the Senate.

The McManus Memorial Classic Prize.

An annual award of \$30 to the best student in Latin 15, and \$5 to the Head of the Classics Department. Donated in memory of the

late Patrick McManus of St. Thomas, Ontario, by his descendants, of whom 11 are alumni of Assumption.

The Women's Auxiliary to Assumption University of Windsor Prizes.

Four prizes of \$25 each, two to be assigned to outstanding students in the Humanities, and two to outstanding students in the Social Sciences, to be chosen by the Committee on Student Awards.

POSTGRADUATE AWARDS

A number of fellowships varying in value from \$500 to \$2,000 per year are available for graduate students of any University proceeding to Masters' degrees in Arts and Science. For details, consult the Registrar's Office or the head of the Department concerned.

For detailed information regarding fellowships and scholarships open to Assumption graduates in Canada and abroad, the following publications may be consulted in the Registrar's Office:

Canadian Universities and Colleges
(National Conference of Canadian Universities)

Awards for Graduate Study and Research
(Dominion Bureau of Statistics)

United Kingdom Postgraduate Awards
(The Association of Universities of the British Commonwealth)

Study in France
(French Embassy, Ottawa)

Study Abroad
(United Nations Educational, Scientific and
Cultural Organization)

ADMISSION REQUIREMENTS

Each person seeking admission to any part of the University should apply to the Registrar, Assumption University of Windsor, 400 Huron Line, Windsor, Ontario, for application forms, which are to be filled out and returned to the same. In the case of those seeking admission to the regular winter session, this should be done prior to September 1st. Earlier application, however, is strongly advised.

In addition to the academic qualifications listed below, an aptitude test may be required before admission.

1. For admission to First Year:

Satisfactory completion of nine Grade XIII papers, as indicated below (or equivalent):

Arts—English (2 papers), another language (2 papers); and either Mathematics (2 papers) or a third language (2 papers) and any other 3 papers, or Music and any other 4 papers.

Commerce (Business Administration)—English (2 papers), another language (2 papers); Algebra and 1 other Mathematics paper; and any other 3 papers.

Pure Science—English (2 papers), another language (2 papers); Algebra, Geometry, Trigonometry, Chemistry and Physics. (60% overall average required, plus an average of 60% in Mathematics and Science).

Nursing (degree course)—English (2 papers), another language (2 papers); Botany, Chemistry, Zoology; and any other 2 papers.

Engineering—60% overall average in the 9 Grade XIII papers specified, and in addition: 60% combined average in Algebra, Geometry, and Trigonometry, 60% combined average in Physics and Chemistry; English (2 papers); and

Either Another language (2 papers), **Or** 2 papers from: Botany, Geography, History, Zoology, providing a Grade XII foreign language has been completed.

The Committee on Admissions may admit an applicant to First Year with one condition (i.e., lacking one subject—2 papers in one language or any other 2 papers). If an applicant has spent one or more years in Grade 13 and lacks more than one subject (as defined in this paragraph), he may not be admitted to either the First Year or to the Preliminary Year, but must complete the entrance requirements for First Year by further high school work.

An applicant who has completed advanced High School work outside of Ontario should submit the Departmental or other official certificates (originals or photostatic copies) to the Committee on Admissions for a decision regarding eligibility for entrance and advanced standing.

2. For admission to Preliminary Year:

The Ontario Secondary School Graduation Diploma in the General Course, or an equivalent certificate, with an average of at least 65 per cent in the following subjects of Grade XII:

1. English and History.
2. Latin or Mathematics.
3. One of: Latin, French, German, Spanish or Italian, Greek.
4. Two of: Mathematics, Science or Agriculture, Music, Geography, option from (3) not previously used.

No option may be counted more than once. For the Music option the following certificates will be accepted: Grade III Theory or Grade VII Practical and Grade II Theory.

Applicants for the B. Comm. program must have completed courses in Intermediate Algebra and Plane Geometry. Applicants for B. Sc. programs must have completed courses in Intermediate Algebra, Plane Geometry, Physics and Chemistry (or Agriculture): an average of 66% in these subjects is required of prospective engineers and of those intending to major in chemistry, mathematics or physics.

An applicant who has completed High School work outside of Ontario should submit the Departmental or other official certificates (originals or photostatic copies) to the Committee on Admissions for a decision regarding eligibility for entrance.

The General Certificate of Education of **Great Britain** (or an equivalent certificate from elsewhere in the Commonwealth) will admit to the Preliminary Year provided it indicates satisfactory completion of 5 subjects at the Ordinary level (three of which must be English, another language, Mathematics). If two of the five subjects are at the Advanced level, the G.C.E. will admit to First Year, provided the subjects chosen are appropriate to the course to which admission is sought.

Graduation from a **United States** high school will admit to the Preliminary Year provided the applicant has completed at least 16 academic units, including 4 units in English and sequences (at least 2 and preferably 3 units) in each of Mathematics, Science, Social Studies and one foreign language. An applicant for Arts may substitute additional units in another foreign language for either Mathematics or Science. The applicant, in addition, must receive a favourable recommendation from his Principal; he or she must have an

academic record such that he or she ranks in the upper half of the class; and must obtain a score on a psychological examination satisfactory to the Committee on Admissions.

An applicant from **Latin America** must present a certificate showing satisfactory completion of the *bachillerato* necessary for admission to university in the applicant's own country.

THE PRELIMINARY YEAR

English 5, Speech 15y, Library Science

Language A or 2

Philosophy 15

plus one of the following combinations of subjects:

1. **Arts** Mathematics 4 or Music 1 or another language A or 2;
Biology 1 or Geology 1 or Geography 10 or another
science course involving laboratory work (with
permission of Dean).

This qualifies for admission to First Year General Arts, which is prerequisite for all courses leading to the General and Honours B. A. degrees; and to the Honours B. Comm. degree provided Mathematics 4 has been completed. Students intending to major in Household Science within the General Arts course are required to take Biology 1.

2. **Science** Mathematics 1y, 2y, 3y;
Chemistry 1a, Physics 1a.

This qualifies for admission to First Year General Science, which is prerequisite for all courses leading to the General and Honours B. Sc. degree, provided the student has an average in Mathematics and Science of 60% and an overall average of 60%; it also qualifies for admission to First Year Engineering, leading to the B. A. Sc. degree, provided the student has an average of 60% in Mathematics, 60% in Science, and an overall average of 60%.

3. **Pre-Nursing** Biology 1, Chemistry 1a;
Theology 14 or option.

This qualifies for admission to First Year Pre-Nursing, leading to the B. Sc. N. degree.

N. B. Students of the Preliminary Year who successfully complete Speech 15y, Library Science and Philosophy 15 will not be required to repeat these subjects in First Year, but will substitute Philosophy 25; in Second Year they will substitute an option outside their major field(s) for Philosophy 25.

3. Adult Special Students—Students who are over twenty-one years of age, though they may not be able to present qualifications for admission to candidacy for degrees, may be admitted to a few courses, if, in the opinion of the professors in charge, they are qualified to pursue satisfactorily the courses chosen. These special students must satisfy the professors by regular attendance and attention to the work of their classes. They will not be allowed to advance from year to year in a department without taking the regular examinations.

An adult special student who has satisfactorily completed one year's work in the General Course will be considered to have secured standing sufficient to permit his proceeding to a degree on the same terms as one who at entrance presented complete entrance requirements.

4. Transfer Students:

An applicant who wishes to transfer (at any level) from another college or university must arrange for a complete transcript of his record and a statement of honorable dismissal to be sent to the Registrar directly by each institution previously attended. An applicant who has attended another college or university and who is not eligible to re-register therein may not be admitted to this University. Every student will be required to complete at least one full year or the equivalent at this University, including at least two courses in his major field, before qualifying for a degree (see p. 178).

5. Probationary Students:

A student admitted to any year with the minimum admission requirements may be placed on probation by the Committee on Admissions. Such a student will be expected to show at all times concrete evidence of serious application to study. In the event that a student on probation fails his year he is not permitted to repeat, but must withdraw (see p. 60).

6. Graduate Students: See pp. 101 ff.

ACADEMIC REGULATIONS

Every assistance will be rendered the student who seeks advice in planning his program and in the fulfilment of requirements for a degree. Nevertheless, however, the responsibility for familiarizing himself with the requirements for degrees and with the academic regulations falls primarily upon the student himself.

GENERAL REGULATIONS

Registration

Each student must register at the commencement of each session at the time and place designated by the Registrar. Once the student has completed his registration, he may not change his course, add or drop subjects without:

1. (a) (in the case of regular day students) permission of the Dean of Arts and Science; OR
(b) (in the case of extension students) permission of the Director of Extension.
2. notification of the Registrar's Office.
3. notification of the instructor(s) concerned.

(For fees and refunds, see p. 41 ff).

Each new student in the regular winter session may be required, in addition, to take a battery of psychological tests, in connection with the counselling and guidance program (see p. 39), at a time and place designated by the Dean. In the event that a student fails to appear for such tests he may be required to take them at a later date with additional expense.

Students matriculating into this University from high school register in University College (except Redemptorist seminarians, who register in Holy Redeemer College). Students in Arts and Household Science remain in University College until graduation. Students in Pure and Applied Science, Commerce, and Nursing transfer after the completion of Second Year to Essex College. For the present, Holy Names College offers residence and other facilities to women registered in other colleges, and Canterbury College offers instruction in Anglican theology to students registered in other colleges.

Regular Examinations

The regular examinations will be held in January and May.

If a student writes more than one examination in a course, the last mark he obtains shall be the only one considered for academic credit.

In all subjects, the ratio of term-work marks to examination marks is determined by the teaching staff in each subject; neither term mark nor examination mark, however, will count for less than one-third nor more than two-thirds of the final grade. To pass a subject, a student must obtain an average of 50% on term work and examination; the Committee on Academic Standing, however, may at its discretion withhold credit if the mark in either term work or examination is below 50%.

Term work in a course will not be credited to a student beyond the year in which the course is taken.

Special Examinations

A Special Examination is an examination other than the regular examination in the course involved, Spring or Summer, permitted by the Dean for a grave reason and after special application. No special examination may be assigned except on the recommendation of the Head of the Department concerned, after consultation with the instructor involved. (Often students should be advised to adopt the alternative of repeating the lectures and taking the next regular examination.)

A student who fails to appear for a paper at the time set on the examination timetable will not be allowed to write on the examination paper thus missed, but may be permitted to write a special examination upon fulfilment of the conditions indicated in the above paragraph at a time determined by the Registrar after consultation with the Department and Instructor involved. (For fees, see p. 41).

Failures

A student in the General or Honours program who fails to obtain 50% in the regular or supplemental examinations in a course will not be eligible for re-examination without a further year's attendance at the lectures in the course in which he has failed. **The student must repeat that course, if it is prescribed, the year after failure no matter what subject or subjects must be postponed.**

A course may be repeated once only.

Subjects which depend directly upon the work of a preceding year may not be taken by a student who has failed in the work of the preceding year.

A full-time student in any year who fails more than two full subjects (or the equivalent in half subjects) or whose general average

is less than 40%, at the Spring examinations, shall be deemed to have failed his year and shall lose credit for all the subjects of that year in which he has obtained less than 66%. If he has already failed a year, either at this or some other university, or is on probation, he shall withdraw; otherwise he shall be permitted to return but shall be required to obtain a passing grade in each individual subject of his approved registration at the following Spring examinations. A student who fails to meet this requirement shall withdraw. A student in Second Year shall, in addition, be required to obtain 60% or better in at least three subjects by the conclusion of the August examinations; if he fails to do so, he shall fail his year and lose credit for all subjects of that year in which he has obtained less than 66%. He must repeat his year, and if he fails to complete this requirement must withdraw.

A student who is required to repeat his year's work may petition his Dean to be allowed to substitute a subject at the same year-level and available without a clash of timetable, for a subject in which he has obtained 66% or better.

Appeals

A student who wishes to receive special consideration on account of serious illness or bereavement or other grave reason should communicate with the Registrar's Office before the close of the examination period, and should submit supporting documents (e.g., a medical certificate) within a week. Requests for consideration on these grounds will not be considered after the official results have been released by the Registrar's Office.

A student who wishes an examination paper re-read, should submit the request in writing to the Registrar's Office within six weeks after the close of the examination period, together with a fee of \$10. In the event that the grade is changed as a result of re-reading, this fee will be refunded.

Appeals should be addressed to the Secretary of the Committee on Academic Standing, and sent to the Registrar's Office.

Miscellaneous

Any student of any year who shows an unsatisfactory knowledge of spoken or written English must do additional assignments until his work satisfies his instructors.

When a student begins a foreign language in the University, no credit towards a degree will be given for the first year of that language unless that year is followed by a second year in the same language. No student may begin two foreign languages in the same year.

Permission to take extra courses must be obtained from the Committee on Academic Standing. For extra courses taken by permission of the Committee, an extra tuition and laboratory fee will be charged at the usual rate.

A student may take courses for credit in Summer Schools conducted by this or other institutions, subject to approval by the Dean. Such courses, if approved, may be counted towards degrees. No student, however, who enters the University with Junior Matriculation standing alone, will be permitted to obtain any Bachelor's degree in less than four complete academic years.

Every student entering the University in Preliminary or First Year is required to complete satisfactorily a course in Library Science (see p. 150).

A student who wishes to participate in more than one extra-curricular activity (on or off campus), or who wishes to undertake employment during an academic session, must obtain permission from the Dean of Arts and Science before engaging in such activity. No student who is employed full-time will be permitted to attempt more than three full year-courses in the winter session (day or evening), nor more than one full year-course in the summer session.

PARTICULAR REGULATIONS

I. General Course

Students in the General Courses will be ranked in order of merit in each year and in each subject in six grades, A, B, C, D, E, F. The minimum for Grade A is 75% of the marks obtainable; for Grade B, 66%; for Grade C, 60%; for Grade D, the minimum passing grade, 50%. A mark that falls in Grade E, 40 to 49%, entitles the student to a supplemental, subject to the regulations governing supplementals (see below). Grade F, less than 40%, indicates a total failure and the necessity of repeating the course in class.

No student will be admitted to a Bachelor's degree who has not obtained at least Grade D on all the prescribed and elective work of his course and who has not obtained Grade C on half the work of the senior year, and an average of Grade C in all the courses in his major subject belonging to the Second and Third Years, exclusive of minor requirements.

Supplementals

A supplemental examination is one set on work in which a student has been conditioned (40 to 49%). This examination will be

held in August for those who have been conditioned in any course. (See first paragraph under **Failures**, p. 59.)

Students conditioned at the final examinations should attempt to remove their conditions at the supplemental examinations of the next August. If a condition is not removed the **whole course** must be repeated.

Supplemental examinations will not be allowed any student in more than two full courses.

Students whose grade is F (less than 40%) in any course may not write a supplemental. They must repeat the course.

A student who has failed his year is not permitted to write any supplemental or special examinations on the work of that year.

II. Honours Course

Students entering Honours Courses should observe that the purpose of their university work is not simply the creditable passing of courses, term after term, but the gradual acquisition of a broad and deep knowledge of the chosen subjects and an intelligent appreciation of their bearing upon general knowledge and culture. Various departments have introduced comprehensive examinations for Honours students. These examinations, partly oral and partly written, are given at the end of the senior year and cover the broad aspect of the student's Honours Course. They are additional to the course examinations.

Candidates in the Honours Courses in any department will be ranked in order of merit in that department in four classes; those who obtain 75%, or over, of the total number of marks will be placed in Class I; those who obtain 66% to 74% will be placed in Class II; those who obtain 60% to 65% will be placed in Class III; those who obtain between 50%, the minimum for pass, and 59%, will be placed in Class IV; but an average of Class IV over all the Honours subjects of the fourth year (with no failure on any paper) will not entitle the candidate to an Honours degree. Standing in general subjects will be indicated by letter grades (see Section I above).

A candidate in an Honours Course who, at the examination for the degree of Bachelor of Arts, fails to obtain the requisite average for honours (60%), provided he has obtained 50% in each course of his final year, may, on the recommendation of the Committee on Academic Standing, be awarded a degree in the General Course. The candidate may write a subsequent examination for the Honours degree.

The average of Honours students will be calculated as the general average of all courses in Second Year, and the average of Honours courses exclusively in Third and Fourth Years.

Students in an Honours Course, who do not obtain at least third class average in the major Honours subjects of the second and third years, with an average of at least 60% in all subjects, are not permitted to continue in Honours.

A student who fails to obtain 50% in an Honours subject will be allowed to continue in Honours if his year average as calculated above is 60% or better. No supplemental examinations are allowed in Honours subjects.

If a student at the end of II Year Honours transfers to the General course, he shall be required to take all subjects of III Year General.

If a student in III Year Honours transfers to the General course, he will not be eligible for a degree unless he has completed all the required subjects of the General course.

III. Engineering

Candidates in the Engineering course will be ranked in order of merit in each year and in each subject in four classes; those who obtain 75% or over of the total number of marks will be placed in Class I; those who obtain 66% to 74% will be placed in Class II; those who obtain 60% to 65% will be placed in Class III; those who obtain between 50%, the minimum for pass, and 59%, will be placed in Class IV. Standing in general subjects will be indicated by letter grades (see Section I above).

For promotion to the next year of the Engineering course, a student must obtain an overall average of 50% in the Spring examinations. A student with this minimum average is allowed supplemental examinations in three full courses, and must pass in two full courses of these in order to enter the next year.

A student in Engineering may be allowed to carry a failed supplemental for not more than one year. That is, a First Year subject cannot be carried into the Third Year, and a Second Year subject cannot be carried into the Fourth Year. If a student fails a supplemental in the Fourth Year, his case will be considered by the Academic Standing Committee.

Teachers' Courses and Certificates

1. Courses for Teachers.

For the benefit of teachers and others who cannot attend the regular day winter sessions, the University offers instruction leading to B. A. degrees in the General Course in the Evening Division and in Summer School, (se p. 178). It is possible to complete the requirements entirely by these means. Candidates are advised to plan their programs carefully, with the assistance of the Registrar, in order to avoid delays resulting from time-table conflicts or other reasons.

2. High School Assistants' Certificates

I. Type B.

The academic standing for admission to the course in the Ontario College of Education leading to a High School Assistant's Certificate, Type B, is a degree in Arts, Science, Commerce, Applied Science or Household Science from a British University, based upon courses approved by the Minister of Education.

II. Type A.

As a result of agreements between the Minister of Education and Assumption University of Windsor, completion of the following Honours Courses offered by this University with a final or graduation average of 66% fulfills the academic requirements for admission to the courses at the Ontario College of Education leading to High School Assistants' Certificates, Type A, in the fields as indicated below:

Honours Course

Chemistry and Physics
English Language and Literature
English and Philosophy (Language option)
English and History
History (Economics option)
History (Philosophy option)

Type A Certificate

Physics and Chemistry
English
English
English and History
History
History

Graduates in General Courses who wish to obtain Type A standing in English, English and History, History, Mathematics, Mathematics and Physics, Science, Physics and Chemistry, Physics and Biology, Chemistry and Biology should consult the Registrar.

3. Public School Inspector's Certificate

The Department of Education will accept from a graduate of Assumption University of Windsor for the purposes of the Public School Inspector's Certificate any honour degree in arts or science required for admission to the course of study leading to a High School Assistant's Certificate, Type A; and a pass degree in arts or science where the candidate

- (i) obtains the degree with a standard of 66% on his final examinations; and
- (ii) successfully completes any three of the first, second, third, and fourth year courses of study in English.

The candidate is required, further, to have extended his course over at least four years from Junior matriculation and to have attended university classes for at least two academic years, or for at least one academic year and two sessions of the summer school, or the equivalent thereof.

For the professional requirements candidates should consult the Department of Education, Toronto 5, Ontario.

REQUIREMENTS FOR DEGREES

BACHELOR OF ARTS

GENERAL COURSE

This program may be adapted to suit the needs of students planning to enter Law, Teaching, Social Work, Personnel Work, Theology, or any profession requiring a good, general background in the Liberal Arts.

Admission requirements:

Nine Grade XIII papers including English (2 papers), another language (2 papers), Mathematics (any 2 papers) or a third language (2 papers) or Music; or Preliminary Year Arts (see p. 56).

FIRST YEAR

English 15, Speech 15y, Library Science

Language †2 or 12

Theology 14 or option

Philosophy 15

Two courses (see Note 2) from:

Economics 15 or 19; Geography 10; History 10 or 11; Psychology 15; Sociology 12; Business Administration 15, or Household Science 12a and 14b, or Political Science 12, or an additional language †2 or 12, or option.

SECOND YEAR

Theology 24 or Philosophy 22

Philosophy 25

Two courses (see Note 4) from:

†Economics 15 or 19; ‡History 24 or 27 or 36;

†Psychology 15; one option.

Two courses in one of the following major fields:

Economics: 21, 23

English: 22 and one other

French: †12 or 21, 22y, 23y

Geography: 19, 24

History: 36 and one other

Household Science: 20, 21

Philosophy: 27, 31

Political Science: 20 and one other

Psychology: 28 and one other

Sociology: 23, 32

Spanish: †12 or 21, 22y, 23y

Theology: 22, *24

THIRD YEAR

Theology 34 or option

Two options

Two courses in one of the following major fields:

Economics:	Two courses
English:	39 and one other
French:	†21, 27, 31
Geography:	34 and one other
History:	Two courses
Household Science:	32, 35
Philosophy:	34 and one other
Political Science:	31 and one other
Psychology:	Two courses, seminar
Sociology:	35, Psychology 34
Spanish:	†21, 33, 34
Theology:	33, *34

†Omit, if previously taken.

‡History majors may not choose a History course from this group.

*If already chosen, an option is to be substituted.

Notes:

- (1) A **major** may be taken, with the consent of the department concerned, in any subject listed in Group A below. A **combined major** (consisting of one subject per year in each of two fields) may be taken, with the consent of the departments concerned, provided that at least one of the subjects is chosen from Group A. The other may be chosen from Group A or B. At present subjects are classified tentatively as follows:

Group A—Economics, English, French, Geography, History, Household Science, Philosophy, Political Science, Psychology, Sociology, Spanish, Theology.

Group B—Fine Arts, German, Latin, Russian, Speech.

Combined majors will be arranged to suit individual needs by the Dean in consultation with the heads of the departments concerned.

- (2) In selecting his subjects in First Year, the student should include **the subject appropriate to the major or Honours course** he wishes to undertake. (History majors elect History 10. Students planning to enter Honours Business Administration elect Business Administration 15 and Economics 15 or 19).
- (3) An "option" means a subject **outside the major field** (or fields, in the case of a combined major) not already taken. Options in each year may be drawn from the natural sciences or mathematics, with permission of the Dean of Arts and Science, and options in Second and Third Year shall be chosen in consultation with the head of the department in which the student is majoring. (An extra charge may be made for options involving

laboratory work).

- (4) Economics 15 or 19, Psychology 15 and at least one of History 10, 11, 24, 27, 36, are **required for graduation**.
- (5) No subject may be counted more than once.

HONOURS COURSES

Honours courses are characterized by strict prescriptions of studies and high standards of performance, more especially within those departments in which the major and minor subjects have been selected. These courses are one year longer than the General Courses.

I. HONOURS ECONOMICS AND POLITICAL SCIENCE

Admission requirements: Completion of the first year of General Arts, including Economics 19§, with an overall average of at least 60%.

Second Year Honours

Economics 221 (Pricing Theory and Policy)
Economics 223 (Money and Banking)
Economics 227 (Economic History of Europe and United States)
Political Science 220 (Canadian Government and Politics)
or Political Science 212, if not previously taken
Philosophy 25
Business Administration 250

Third Year Honours

Economics 301 (International Trade and Finance)
Economics 336 (Economics of Labour)
Economics 338 (Economic History and Economic Problems of Canada)
One of: Political Science 331 (Major Foreign Governments)
Political Science 334 (The Commonwealth of Nations)
History 36
One of: English 22, 36, 38

Fourth Year Honours

Economics 400 (History of Economic Thought)
Economics 434 (Statistical Methods)
Two of: Economics 402 (Government and Economic Life)
Economics 410 (Modern Economic Theory)
Economics 431 (Public Finance)
Political Science 443 (International Politics)
Political Science 452 (History of Political Thought)
Theology 34 or option

§Students who have taken Economics 15 may be accepted at the discretion of the head of the department.

II. HONOURS ENGLISH LANGUAGE AND LITERATURE

Admission requirements: Satisfactory completion of First Year General Arts, with 60% in English 15 and an average of 60% in the two languages taken.

Second Year Honours

English 236 (Modern British and American Drama)
English 250 (Restoration and 18th Century Literature)
English 254 (Criticism, Scholarship, Bibliography)
Greek 12y
History 10 or 27
Two of: French 27; (Philosophy 25 required if not yet taken);
Theology 24 or option approved by the Department.

Third Year Honours

For admission to the Third Year an average of 60% is required in the English of the Second Year, and an average of 60% in all subjects.

English 350 (Romantic Revival)
English 356 (English Drama to 1642)
English 357y (History of the English Language)
English 358 (American and Canadian Literature)
English 363y (Old and Middle English)
Two of: French 380, Philosophy 222, Psychology 15, Economics 15
or 19, Theology 24 or 34.

Fourth Year Honours

For admission to the Fourth Year an average of 60% is required in the English of the Third Year and an average of 60% in all subjects.

English 441y (Creative Writing)
English 450 (Renaissance Literature, Non-Dramatic)
English 459 (Recent Literature in English)
English 460 (Literature of the Victorian Period)
English 463 (Advanced Middle English Language and Literature)
Two of: Philosophy 334, 431, French 490, or options approved by
the Department.

III. HONOURS ENGLISH AND HISTORY

Admission requirements: Satisfactory completion of First Year General Arts, with 60% in English 15 and History 10, and the other language chosen (French 12 or German 12 or Latin 12).

Second Year Honours

- English 250 (Restoration and 18th Century Literature)
- English 254 (Criticism, Scholarship, Bibliography)
- One of: English 236 (Modern British and American Drama)
- English 358 (American and Canadian Literature)
- History 236 (Modern)
- History 257 (Ancient Civilizations)
- Theology 24 or Philosophy 222
- One option to be chosen in consultation with the heads of the two major departments (Philosophy 25 if not yet taken)

Third Year Honours

For admission to the Third Year an average of 60% is required in English and History of the Second Year, and an average of 60% in all courses.

- English 350 (Literature of the Romantic Revival)
- English 356 (English Drama to 1642)
- English 357y (History of the English Language)
- English 363y (Old and Middle English Language and Literature)
- History 24 (England)
- History 331 (Canada)
- History 345 (Latin America)

One option (Political Science 212 if not previously chosen) from Classics, Economics, Philosophy, Romance Languages, Sociology or Theology as approved by the heads of the two major departments.

Fourth Year Honours

For admission to the Fourth Year, an average of 60% is required in the English and History of the Third Year, and 60% in all subjects.

- Three of: English 450 (Renaissance Literature, Non-Dramatic)
- English 459 (Recent Literature in English)
- English 460 (Literature of the Victorian Period)
- English 463 (Advanced Middle English Language and Literature)
- History 356a (International Relations and World Problems)
- History 358 (Canada, Autonomous State)
- History 444 (History of the United States)
- History 452 (European Society and Institutions)

IV. HONOURS ENGLISH AND PHILOSOPHY

Admission requirements: Completion of First Year General Arts (including History) with 60% in English 15 and 60% in French 12 or German 12 or Latin 12.

COURSE A

Second Year Honours

English 250 (Restoration and 18th Century Literature)
English 254 (Criticism, Scholarship, Bibliography)
Philosophy 221a (Logic)
Philosophy 222 (Ethics)

Three optional courses (including Psychology 15 and Philosophy 25 if not chosen previously) from Classics, Economics, German, History, Political Science, Romance Languages, Sociology and Theology as approved by the Heads of the two major Departments.

Third Year Honours

For admission to the Third Year an average of 60% is required in the English and Philosophy of the Second Year, and an average of 60% in all subjects.

English 350 (Literature of the Romantic Revival)
English 356 (English Drama to 1642)
Philosophy 327 (History of Mediaeval Philosophy)
Philosophy 334 (Metaphysics)

Two optional courses to be selected as in Second Year.

Fourth Year Honours

For admission to the Fourth Year an average of 60% is required in the English and Philosophy of the Third Year, and an average of 60% in all subjects.

English 450 (Renaissance Literature, Non-Dramatic)
English 459 (Recent Literature in English)
English 460 (Literature of the Victorian Period)
Philosophy 350 (Philosophical Texts)
Philosophy 423a (Philosophy of Art)
Philosophy 431 (Modern and Contemporary Philosophy)

COURSE B (Language Option)

Second Year Honours

- English 250 (Restoration and 18th Century Literature)
English 254 (Criticism, Scholarship, Bibliography)
EITHER: English 236 (Modern British and American Drama)
OR: English 358 (American and Canadian Literature)
Philosophy 221a (Logic)
Philosophy 222 (Ethics)
French 27
French 271

Philosophy 25 (required unless previously taken) or an option approved by the Heads of the Departments of English and Philosophy.

Third Year Honours

For admission to the Third Year an average of 60% is required in the English and Philosophy of the Second Year, and an average of 60% in all courses.

- English 350 (Literature of the Romantic Revival)
English 356 (English Drama to 1642)
English 357y (History of the English Language)
English 363y (Old and Middle English Language and Literature)
Philosophy 327 (History of Mediaeval Philosophy)
Philosophy 334 (Metaphysics)
French 380

Fourth Year Honours

For admission to the Fourth Year an average of 60% is required in the English and Philosophy of the Third Year, and an average of 60% in all subjects.

- THREE of: English 441y (Creative Writing)
450 (Renaissance Literature, Non-Dramatic)
459 (Recent Literature in English)
460 (Literature of the Victorian Period)
463 (Advanced English Language and Literature)
Philosophy 423a (Philosophy of Art)
431 (Modern and Contemporary Philosophy)

V. HONOURS HISTORY (Economics Option)

Admission requirements: Completion of First Year General Arts, with 60% in History and an average of 60% in English 15 and the other language(s) chosen.

Second Year Honours

History 10 (Mediaeval; Renaissance, Reformation)
History 236 (Modern History)
Bus. Ad. 15
Economics 15 or 19 (or option from First Year General Arts)
Geography 10
One of: French 21, German 21, Spanish 21

Third Year Honours

For admission to the Third Year, an average of 60% is required in the History of the Second Year, and an average of 60% in all subjects.

History 24 (England)
History 331 (Canada)
History 333a (Development of Self-Government)
History 354b (Latin America)
History 356a (International Relations and World Problems)
Economics 219
Economics 223
Geography 324

Fourth Year Honours

For admission to the Fourth Year, an average of 60% is required in the History of the Third Year, and an average of 60% in all subjects.

History 444 (United States)
History 452 (European Society and Institutions)
History 455 (British Political Parties)
Economics 400a
Geography 334
Political Science 212
Political Science 452a

VI. HONOURS HISTORY (Philosophy Option)

Admission requirements: Satisfactory completion of First Year General Arts, with an average of 60% in each of Philosophy 15 and History 10, and an overall average of 60%.

Second Year

History 236 (Modern)
History 257 (Ancient Civilizations)
Philosophy 25* or Psychology 15
Philosophy 221a (Logic) and 328a (Philosophical Psychology)

*Required unless previously taken.

Philosophy 222 (Ethics)
Geography 10

Third Year

History 24 (England)
History 331 (Canada)
History 333a (Development of Self-Government in British Empire)
and 354b (Latin America)
Philosophy 327 (History of Mediaeval Philosophy)
Philosophy 334 (Metaphysics)
Geography 324
Theology 24

Fourth Year

History 356a (International Relations, World Problems)
History 444 (United States)
ONE OF: History 358 (Canada, Autonomous State, 1837-1957)
History 452 (European Society and Institutions)
History 455 (British Political Parties)
TWO Senior Honours Philosophies not already taken
Political Science 212
Theology 34 or option

VII. HONOURS PHILOSOPHY AND PSYCHOLOGY

Admission requirements: Satisfactory completion of the First Year of the General Arts program with an average of 60%, provided that Psychology 15 has been taken.

Second Year Honours

Philosophy 221a (Logic)
and 328a (Philosophical Psychology)
Philosophy 222 (Ethics)
Psychology 228 (Statistical Methods)
Psychology 329 (Personality)
Two of: Philosophy 25*, Economics* 15 or 19, History*, option.

Third Year Honours

For admission to Third Year, an average of 60% is required in Philosophy and Psychology, and an average of 60% in all subjects.

Philosophy 327 (History of Mediaeval Philosophy)
Philosophy 334 (Metaphysics)
Psychology 330 (Experimental)
Psychology 331 (Abnormal) and attendance at Seminar
Political Science 212
Theology 24 or option

*Required unless previously taken.

Fourth Year Honours

For admission to Fourth Year, an average of 60% is required in Philosophy and Psychology, and an average of 60% in all subjects.

Any two full Honours courses in Philosophy as approved by the Department

Any two full Honours courses in Psychology as approved by the Department

Theology 34 or option

Option

VIII. HONOURS PHILOSOPHY AND SCIENCE

Admission requirements: Satisfactory completion of First Year Science, with Physical Sciences options, and an overall average of 60%.

Second Year Honours

Philosophy 25 or option

Philosophy 328a (Philosophical Psychology)
and 221a (Logic)

Chemistry 232 (Analytical)

Botany 10

Zoology 10

Physics 222 (Geometrical and Physical Optics)

Third Year Honours

Philosophy 327 (History of Mediaeval Philosophy)

Philosophy 334 (Metaphysics)

Chemistry 233 (Organic)

Zoology 231 (Comparative Vertebrate Zoology)

Physics 223 (Electricity and Magnetism)

Theology 24 or option

Fourth Year Honours

Two Senior Honours Philosophies

Chemistry 344 (Physical)

Physics 36x (Modern Physics)

Physics 334 (Electronics)

Seminar in Philosophy and Science

Theology 34 or option

IX. HONOURS PSYCHOLOGY

Admission requirements: Satisfactory completion of the First Year of the General Arts program with an average of 60%, and completion of Psychology 15 with an average of 65%.

Second Year Honours

Psychology 222 (Child and Adolescent)
Psychology 228 (Statistics)
Psychology 233a (Applied) or 226a (Educational)
Psychology 233b (Physiological)
Psychology 331 (Abnormal)
Philosophy 25 or option
Philosophy 28a
Theology 24 or option

Third Year Honours

For admission to Third Year, an average of 60% is required in Psychology, and average of 60% in all subjects.

Psychology 327 (Tests and Measurements)
Psychology 329 (Personality)
Psychology 330 (Experimental)
Psychology 334 (Social)
Theology 34 or option
One other option

Fourth Year Honours

For admission to Fourth Year, an average of 60% is required in Psychology, and average of 60% in all subjects.

Psychology 450 (Projective Techniques)
Psychology 451 (Advanced Statistics)
Psychology 452 (Emotions)
Psychology 453 (Learning)
Two options

Note: Options are to be approved by the Department; it is recommended that at least one be in Biology and one in Physics.

BACHELOR OF HOUSEHOLD SCIENCE

HONOURS HOUSEHOLD SCIENCE

(not offered 1959-60)

Admission requirements: Grade XIII English, another language, Algebra, Geometry, Trigonometry, Chemistry, Physics; or satisfactory completion of the Preliminary Year as outlined on p. 56.

First Year

English 15	Chemistry 10
Speech 15y	Biology 1
Philosophy 15	H. Sc. 12a (Basic Foods),
Theology 14 or Option	14b (Textiles)

Second Year Honours

Theology 24 or Philosophy 22	Fine Arts 23a (Principles)
Philosophy 25	H.Sc. 220b (Clothing)
Chemistry 22m (Quantitative Analysis)	221b (Nutrition)
Chemistry 23 (Organic)	223b (Applied Art)
Zoology 13a (Human Anatomy and Physiology)	224a (Textiles)
	235 (Household Administration)

Third Year Honours

Theology 34 or Option	H.Sc. 320b (Advanced Clothing)
Psychology 15	321a (Advanced Nutrition)
Economics 15 or 19	322 (Foods)
Botany 16b (Bacteriology)	323b (Interior Decoration)
Chemistry 36 (Biochemistry)	327b (Home Nursing and First Aid)

Fourth Year Honours

Sociology 12	H.Sc. 420y (Tailoring)
Psychology 22 (Child Psychology)	421b (Nutrition Seminar)
Psychology 26a (Educational Psychology)	423b (Costume Design)
	428 (Meal Planning and Table Service)
	432 (Expert Cookery)
	435b (Economy of Household)
	442 (Quantity Cookery)

BACHELOR OF COMMERCE

The purpose of the **Bachelor of Commerce** course is to produce educated men and women with a grounding in business ideas and techniques which will help equip them for positions of responsibility in industry and commerce. The course is designed to provide the broad outlook needed in modern business. In line with this objective, the first two years of the course emphasize the humanities and the social and physical sciences; the last two years provide for concentration in the Business Administration subjects, with three options taken outside the field of business.

Students in this course are not trained specifically as technicians, but are taught general procedure and methods of attack on problems. They are accustomed to independent study, and are encouraged to grapple with business problems on their own. The course is designed moreover to give students some awareness of the position and significance of business in the world today.

Students who, after achieving the B. Comm. degree, intend to become professional accountants, should consult the head of the Business Administration Department before entering the final year of the Commerce Course, and are also referred to the special circulars covering the various accounting bodies.

HONOURS BUSINESS ADMINISTRATION

Admission requirements: Completion of the First Year of the Bachelor of Commerce course or First Year General Arts, provided Economics 19* and Business 15 have been completed.

Second Year Honours

Philosophy 25

Theology 24 or Philosophy 22

English 21 (Business English)

Mathematics 13b (Mathematics of Investment)

Economics 223 (Money and Banking)

Bus. Ad. 250 (Principles of Accounting)

One of: Economics 227 (Econ. Hist. of Europe & the United States)
Economics 338 (Econ. Hist., Current Economic Policies of Canada)

*Students who have taken Economics 15 may be accepted at the discretion of the head of the department.

Third Year Honours

One full course outside the major field

- Bus. Ad. 346 (Personnel Management, Industrial Relations)
350‡ (Intermediate Accounting) or 360 (Management Accounting)
351 (Principles of Marketing)
353 (Corporate Financial Policies)
356 (Commercial Law)

Fourth Year Honours

Two full courses outside the major field

- Bus. Ad. 454 (Industrial Management, Administrative Practices)
Bus. Ad. 455 (Statistical Methods in Business)

Two full courses from the following:

- Bus. Ad. 450a‡ (Advanced Accounting)
450b‡ (Tax Accounting)
451a (Advertising)
451b (Sales Management)
452a (Market Research)
452b (Retailing)
453a (Investment Fundamentals)
453b (Investment Management)
456b (Advanced Personnel Management)
457b (Business Conditions)
459 (Business Research)
460a‡ (Auditing)
460y‡ (Cost Accounting)

‡Required for those intending to pursue an accounting career after graduation.

DIPLOMA IN BUSINESS ADMINISTRATION

First Year

- Business Administration 15 (1 evening, 2 hours)
Economics 15 or 19 (1 evening, 2 hours)

Second Year

- Business Administration 250 (1 evening, 3 hours) or Business Administration 360 (1 evening, 3 hours)
Business Administration 454 (1 evening, 3 hours)

Third Year

Any two full-year senior Business Administration subjects not already taken (2 evenings, 3 hours each).

This program is offered in the evening division only. The minimum time for completion is three years; it may be spread over a longer period if the student wishes. These courses may be applied towards a Bachelor of Commerce degree.

This program is designed primarily for business men with experience. Applicants under twenty-five years of age will be expected to have Senior Matriculation standing or equivalent. Extension courses are available for this purpose.

The average required for the Diploma in Business Administration is an overall "C" average in the six courses. In the event that an applicant has completed equivalent courses elsewhere, he may substitute other courses with the consent of the Department of Business Administration.

BACHELOR OF COMMERCE†

Second Year (Last offered in 1959-60)

Philosophy 25
Economics 223 (Money & Banking)
Economics 221 (Pricing Theory & Policy) or 301 (Int. Trade & Fin.)
Bus. Ad. 250 (Principles of Accounting)
Bus. Ad. 351 (Principles of Marketing)
Bus. Ad. 356 (Commercial Law)

Third Year (Last offered in 1960-61)

Theology 24 or Philosophy 22
Bus. Ad. 346 (Personnel Management, Industrial Relations)
Bus. Ad. 353 (Corporate Financial Policies)
Bus. Ad. 360 (Management Accounting) or 350‡ (Intermediate Accounting)
Bus. Ad. 455 (Statistical Methods in Business)

ONE full course chosen from the following:

Bus. Ad. 450* (Advanced Accounting, Tax Accounting)
451 (Advertising, Sales Management)
452 (Market Research, Retailing)
453 (Investment Fundamentals and Management)
454 (Industrial Management, Administrative Practices)
456b (Advanced Personnel Management)
457b (Business Conditions)
460a‡ (Auditing)
460y‡ (Cost Accounting)
Econ. 301 (International Trade & Finance)
Econ. 431 (Public Finance)

†No new registrants will be accepted for this course after the fall of 1958.

‡Required of Accounting Majors.

*Recommended as an additional course for Accounting Majors.

BACHELOR OF SCIENCE

GENERAL COURSE

This program may be adapted to suit the needs of students planning to enter **Teaching, Industrial Research, Dentistry, Medicine**, or any profession requiring a background in Liberal Arts with emphasis upon the natural sciences and mathematics.

Admission requirements: Grade XIII English, French or German or Latin, Algebra, Geometry, Trigonometry, Chemistry and Physics or Preliminary Year Science (see p. 56) with an overall average of 60% and an average of 60% in Chemistry, Mathematics and Physics. (Applicants intending to major in Biology in the General Course may substitute another Grade XIII paper for the third Mathematics paper.)

FIRST YEAR

English 15, Speech 15y, Library Science

Philosophy 15

Theology 14 or a History

Chemistry 10

and one of the following groups:

Biological Science option (Biology majors):

Botany 10, Zoology 10.

Physical Science option (Chemistry, Mathematics, Physics majors): Mathematics 16, Physics 10.

Students intending to take the honours course in Biochemistry will add to this program Zoology 10; students intending to take the honours course in Chemistry, Chemistry and Physics, Physics, or Mathematics will add to this program Mathematics 11.

SECOND YEAR

Theology 24 or Philosophy 22

Philosophy 25

and one of the following major groups:

Biology: Chemistry 22m, 23; Physics 13; Zoology 22.

Chemistry: Chemistry 22, 23, 24; Physics 26.

Mathematics: Mathematics 11, 26; Physics 26.

Physics: Physics 22, 23; Mathematics 26.

THIRD YEAR

Theology 34 or option

Humanities option

and one of the following major groups:

Biology: Chemistry 36x; 3½ of: Botany 26, 30a, 30b; Zoology 24a, 26, 27, 28, 29y, 30b, 37a.

Chemistry: Chemistry 34, 2 of: 36, 38, 39, 332, 335.

Mathematics: Mathematics 30, 36; and 1 other Math.

Physics: Physics 36; and 2 other Physics.

Notes:

1. The consent of the department concerned is required for choosing a particular major.
2. In choosing subjects students shall bear in mind the prescriptions of the catalogue regarding major and minor requirements and prerequisites. They will have the assistance of members of the staff in planning their programs for each year. **Students intending to seek admission to graduate and professional schools should choose their options in accordance with the requirements for admission of these institutions.**
3. Options in Second and Third Years shall be chosen in consultation with the head of the department in which the student is majoring.
4. Students who enter Second or Third Year without conditions may be permitted by the Dean of Arts and Science to elect one additional option in the humanities each year.
5. **Pre-Medical Technology**—Students intending to enter schools of Medical Technology will follow the same program as Biology majors in First and Second Years, substituting Zoology 13 for Zoology 22. In Third Year, they will take the following major group: Botany 18, 30b; Chemistry 32b, 36; Zoology 34a, 37a.
6. **Pre-Nursing**—See p. 56.
7. **Pre-optometry**—Students seeking to qualify for admission to Optometry are advised to complete First Year Science with Physical Sciences option, substituting Zoology 10 and Psychology 15 for Chemistry 10 and Theology 14 or a History.

I. HONOURS BIOCHEMISTRY.

Admission requirements: Completion of First Year General Science with Biological option, with at least 66% in Chemistry, at least 60% in Biology, and an average of 60% in all the subjects of the First Year.

Second Year Honours

Chemistry 22 (Quantitative Analysis)
Chemistry 233 (Organic)
Mathematics 16 (Calculus)
Physics 13 (General)
Zoology 22 (Comparative Anatomy)
Philosophy 25
Theology 24 or Philosophy 22

Third Year Honours

Botany 26 (Microbiology)
Chemistry 344 (Physical)
Chemistry 346 (Biochemistry)
Zoology 330b (Cell Physiology)
Zoology 539a (Biostatistics)
Physics 36x (Modern Physics)
Theology 34 or option
German A or 2, or Humanities option

Fourth Year Honours

Botany 440a (Plant Physiology)
Chemistry 333 (Intermediate Organic)
Chemistry 444 (Intermediate Physical)
Chemistry 445 (Surface)
Chemistry 446 (Intermediate Biochemistry)
Chemistry 450y (Seminar)
Zoology 432a (Embryology)
Zoology 438x (Genetics)
Zoology 440a (Animal Physiology)
German 2 or option

For Honours Chemistry, see p. 85.

For Honours Chemistry and Physics, see p. 86.

II. HONOURS BIOLOGY.

Admission requirements: Completion of First Year of the General Course (Science) with Biology options and at least an average of 66%.

Second Year Honours

Botany 243 (Taxonomy)
Zoology 231 (Comparative Vertebrate)
Chemistry 22m (Quantitative Analysis)
Chemistry 23 (Organic Chemistry)
Physics 13 (General)
Philosophy 25a (Philosophy of Science)
French 12 or German 12 (if not previously taken) or Theology 24
or Philosophy 22

Third Year Honours

Botany 336 (General Microbiology)
Botany 337y (Ecology)
Zoology 330b (Cellular Physiology)
Zoology 333 (Histology) OR Botany 333 (Green Cryptogams)
Chemistry 36 (Biochemistry)
Mathematics 16 (Calculus)
Philosophy 25b
Theology 34 or an option in Humanities or Social Science
Attendance at Seminars required.

Fourth Year Honours

Zoology 436 (Entomology)
Zoology 438y (Genetics)
Zoology 440a (Animal Physiology) OR Botany 440a
(Plant Physiology)
Zoology 441a (History of Biology)
Zoology 442b (Evolution)
One of: Botany 400 (Problems)
Zoology 400 (Problems)
Zoology 443 (Biotechniques)
One of: Botany 446 (Mycology)
Zoology 335 (Invertebrates)
Zoology 447b (Parasitology) and 432a (Embryology)

III. HONOURS CHEMISTRY.

Admission requirements: Completion of the First Year of the Bachelor of Science Course, Physical Sciences option, with at least 66% in Chemistry, at least 60% in Physics and Mathematics and an average of 60% in all the subjects of the year.

Second Year Honours

Chemistry 232 (Quantitative Analysis)
Chemistry 233 (Organic)
Chemistry 244 (Physical)
Mathematics 26 (Intermediate Calculus, Differential Equations)
Physics 26 (Optics, Electricity, Magnetism)
Philosophy 22 or Theology 24
Philosophy 25

Third Year Honours

For admission to the Third Year, an average of 66% is recommended in the Chemistry of the Second Year, and an average of 60% in all subjects is required.

Chemistry 332 (Intermediate Analytical)
Chemistry 333 (Intermediate Organic)
Chemistry 335 (Inorganic)
Chemistry 344 (Physical)
Mathematics 36 (Differential Equations, Advanced Calculus)
German A or 2, or Russian A or 2
Theology 34 or option

Fourth Year Honours

For admission to the Fourth Year, an average of 66% is recommended in the Chemistry of the Third Year, and an average of 60% in all subjects is required.

Chemistry 444 (Intermediate Physical)
Chemistry 445 (Surface Chemistry)
Chemistry 447b (Electrochemistry)
Chemistry 449 (Research)
Chemistry 450y (Seminar)
One option in Physics
German 2 or Russian 2 or option

The Honours Chemistry program is accredited by the Chemical Institute of Canada.

For Honours Biochemistry, see p. 83.

For Honours Chemistry and Physics, see below.

IV. HONOURS CHEMISTRY AND PHYSICS.

Admission requirements: Completion of First Year of the general course (Science) with Physical Sciences option; at least 66% in Chemistry and Physics is recommended, and an average of 60% in all the subjects of the First Year is required.

Second Year Honours

Chemistry 22 (Quantitative Analysis)
Chemistry 233 (Organic)
Chemistry 244 (Physical)
Physics 222 (Intro. to Geometrical and Physical Optics)
Physics 223 (Electricity and Magnetism)
Mathematics 26 (Interm. Calculus, Differential Equations)
Philosophy 25
Theology 24 or Philosophy 22

Third Year Honours

Admission requirements: An average of 66% is recommended in the Chemistry and Physics of the Second Year; and an overall average of 60% in all subjects is required.

Chemistry 344 (Physical)
Physics 334 (Electronics)
Physics 336 (Modern Physics)
Either: Chemistry 38 (Intermediate Organic)
or: Physics 350 (Theoretical I)
Mathematics 35 (Methods of Applied Mathematics)
German A or 2 or Russian A or 2
Theology 34 or option

Fourth Year Honours

Admission requirements: An average of 66% is recommended in the Chemistry and Physics of the Third Year; and an overall average of 60% in all subjects is required.

Chemistry 335 (Inorganic)
Chemistry 444 (Intermediate Physical)
Physics 452 (Physical Optics)
Physics 466 (Solid State, Nuclear Physics)
Either: Chemistry 332 (Interm. Analytical) and 449 (Research)
or: Physics 450 (Theoretical II) and 470 (Senior Lab)
German 2 or Russian 2 or option

For Honours Biochemistry, see p. 83.

For Honours Chemistry, see p. 85.

V. HONOURS MATHEMATICS AND PHYSICS

Admission requirements: Completion of the First Year of the General Course (Science) with Physical Sciences option, with an average of at least 66% in Mathematics 16 and Physics 10 and an overall average of at least 60%.

Second Year Honours Mathematics and Physics

- Mathematics 227 (Introduction to Modern Algebra)
 - Mathematics 229 (Analytic Geometry)
 - Mathematics 254 (Intermediate and Advanced Calculus)
 - Physics 222 (Geometrical and Physical Optics)
 - Physics 223 (Electricity and Magnetism)
 - Theology 24 or Philosophy 22
 - Philosophy 25
-

Third Year Honours Mathematics

- Mathematics 300 (Principles of Analysis)
- Mathematics 331 (Probability and Statistics)
- Mathematics 341 (Vector Analysis and Theoretical Mechanics)
- Mathematics 354 (Differential Equations)
- Theology 34 or option
- Option (Humanities)

Fourth Year Honours Mathematics

- | Pure Mathematics | Applied Mathematics |
|--------------------------|--------------------------|
| Mathematics 429b | Mathematics 448 |
| Mathematics 437 | Mathematics 449a |
| Mathematics 444 | Mathematics 449b |
| Mathematics 448 | Mathematics 450a |
| Mathematics 449a | Mathematics 450b |
| Two options (Humanities) | Mathematics 451 |
| | Two options (Humanities) |
-

Third Year Honours Physics

- Physics 331 (Thermodynamics)
- Physics 334 (Electronics)
- Physics 336 (Modern Physics)
- Physics 350 (Theoretical Physics I)
- Mathematics 354 (Differential Equations)
- Theology 34 or option
- Option (Humanities)

Fourth Year Honours Physics

Physics 450 (Theoretical Physics II)
Physics 451 (Mathematical Methods in Physics)
Physics 452 (Physical Optics)
Physics 466 (Solid State and Nuclear Physics)
Physics 470 (Senior Physics Laboratory)
Mathematics 438y (Complex Variable)
Option (Humanities)

N. B. It is strongly recommended that students intending to proceed to graduate work choose French, German or Russian as a humanities option.

PHARMACY.

Admission requirements: Completion of Grade XIII English; two of Algebra, Geometry, Trigonometry; Physics and Chemistry; an additional language; one of Botany, Geography, History, another Math paper, Music, Zoology; OR Preliminary Year Science (see p. 56). 60% overall average required.

First Year

Botany 10	French 12 or Philosophy 15 or
Chemistry 10	German 12 or Latin 12 or
English 15	Political Science 12 or
Physics 13	Sociology 12
Zoology 10	

(For admission to Second Year Pharmacy at University of Toronto, a 60% overall average, and 60% average in Science subjects, is required.)

BACHELOR OF APPLIED SCIENCE

Admission Requirements:

EITHER: 60% average in 9 Grade XIII papers as follows:

60% combined average in Algebra, Geometry, and Trigonometry; 60% combined average in Physics and Chemistry; English (2 papers), and

Either Another language (2 papers),

Or 2 papers from: Botany, Geography, History, Zoology, providing a Grade XII foreign language has been completed.

OR: Preliminary Year in Science with:

60% overall average,

60% combined average in Mathematics, and

60% combined average in Science.

The Curriculum:

The engineering curriculum given below is established on the premise that the University must attempt to make a contribution to the development of the student as a person, and on the assumption that the graduate will become a professional engineer with certain obligations to society.

To meet his **technical** responsibility to society, the graduate engineer must be prepared to perform the functions of analysis and design and to use these in the production, construction, and operation of machines and processes on a scientific and economic basis. To meet his **social** responsibility, the graduate who becomes a professional engineer must have qualities of leadership, a deep sense of professional ethics, and a broad general education.

The object of the curriculum is flexibility rather than specialization. Engineering is essentially a creative and rapidly-changing profession which, in its various fields, presents a multitude of specialties and activities that require a sound knowledge of basic mathematics and physical and engineering sciences. Our curriculum attempts to give the student a very broad yet intense foundation in the basic sciences so that, regardless of his undergraduate specialty, he will be prepared to meet the challenge of industrial problems in the vast new areas opened up by the continued growth of these sciences.

The undergraduate curriculum is essentially a program of education with selected courses in the humanities, emphasis on the basic sciences, and an introduction to the broad aspects of technology. The humanities develop the student as a person and enable him to appreciate his responsibilities to his profession and to society. The basic sciences give him flexibility in the pursuance of advanced studies and in his approach to the various specialties. The introduction to technology gives him an appreciation of the practical approach in the scientific and economic solution of problems for the benefit of mankind.

First Semester Lect.Lab.	Second Semester Lect.Lab.
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FIRST YEAR (common to all Engineering courses)

Philosophy 15	3	0	3	0
English 11	2	0	2	0
Chem. 10 (Gen. Chem., Qualitative Analysis) ..	3	3	3	3
Math. 11 (Interm. Alg., Geo., Trig.)	2	2	2	2
Math. 16 (Differential and Integral Calculus) ..	3	0	3	0
Phys. 12 (Mechanics, Heat and Sound)	4	3	0	0
Phys. 15 (Optics, Electricity, Magnetism)	0	0	4	3
E.S. 100 (Engineering Mechanics I)	2	0	2	0
G.E. 100 (Engineering Graphics)	1	5	1	3
G.E. 101 (Orientation) ..				
G.E. 102 (Practical Experience)				

I. CHEMICAL ENGINEERING.

First Semester Lect.Lab.	Second Semester Lect.Lab.
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SECOND YEAR

Philosophy 25a	0	0	3	0
Theology 24 or Philosophy 22	2	0	2	0
Math. 25 (Interm. Calculus, Differ. Equations) ..	3	0	3	0
Chem. 22 (Quantitative Analysis)	2	6	2	0
Chem. 23 (Organic Chemistry)	2	3	2	3
Chem. 344e (Physical Chemistry)	3	0	3	6
E.S. 201x (Strength of Materials)	2	0	2	0
Ch.E. 200 (Elementary Process Calculations) ..	2	2	1	2
E.E. 200b (Electrical Machines)	0	0	2	3
E.E. 202a (Electrical Fundamentals)	2	3	0	0

	First	Second
Semester	Semester	
Lect.Lab.	Lect.Lab.	

THIRD YEAR

History 10 or 36.....	3	0	3	0
Math. 35 (Methods of Applied Math.).....	2	0	2	0
Chem. 38 (Intermediate Organic)	2	3	2	3
E.S. 300 (Fluid Mechanics)	2	1½	2	1½
E.S. 302a (Engineering Thermodynamics)	2	1½	0	0
Ch.E. 300 (Thermodynamics)	2	0	2	0
Ch.E. 301 (Unit Operations)	3	3	3	3
Ch.E. 302 (Solid State)	2	0	2	0
M.E. 300 (Machine Design)	2	0	1	2

FOURTH YEAR (Not offered until 1960-61)

Philosophy 25b	3	0	0	0
Humanities Option	2	0	2	0
Chem. 444 (Intermediate Physical)	3	3	3	0
Phys. 36x (Modern Physics)	2	0	2	0
G.E. 400a (Engineering Profession, Law).....	2	0	0	0
G.E. 401b (Engin. Economics, Business).....	0	0	2	0
G.E. 402b (Nuclear Engineering)	0	0	2	0
G.E. 403b (Thesis and Seminar).....	0	0	1	2
Ch.E. 400 (Int. Ch. Eng., Thermodyn., Kinet.)	2	0	2	0
Ch.E. 401 (Instrumentation)	1	2	1	3
Ch.E. 402 (Plant Design) ..	1	6	1	6
Ch.E. 403 (Mass & Energy Transfer).....	2	3	2	3

II. CIVIL ENGINEERING.

SECOND YEAR

Philosophy 25a ..	0	0	3	0
Theology 24 or Philosophy 22.....	2	0	2	0
Geology 10e (Introductory).....	2	2	2	0
Math. 25 (Interm. Calculus, Differ. Equations)	3	0	3	0
E.S. 200 (Engineering Mechanics II).....	2	0	2	0
E.S. 201 (Strength of Materials).....	2	1½	2	1½
E.S. 202a (Engineering Materials)	3	0	0	0
E.S. 203b (Principles of Metallurgy)	0	0	2	0
C.E. 200a (Elementary Surveying)	3	3	0	0
C.E. 201b (Higher Surveying)	0	0	2	3
C.E. 202b (Graphics and Survey Problems).....	0	0	0	3
E.E. 200b (Electrical Machines)	0	0	2	3
E.E. 202a (Electrical Fundamentals)	2	3	0	0

		First Semester Lect.Lab.	Second Semester Lect.Lab.
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THIRD YEAR

History	10 or 36	3	0	3	0
Math.	35 (Methods of Applied Mathematics)	2	0	2	0
E.S.	300 (Fluid Mechanics)	2	1½	2	1½
E.S.	302b (Introduction to Heat Transfer)	0	0	2	1½
C.E.	300 (Reinforced Concrete)	2	3	2	0
C.E.	301 (Structural Theory, Design I)	2	3	2	3
C.E.	302 (Transportation Engineering)	2	0	2	0
C.E.	303 (Soil Mechanics)	2	1½	2	1½
C.E.	304b (Hydrology)	0	0	2	0
C.E.	305a (Photogrammetry)	2	0	0	0
C.E.	306 (Survey Camp) 2 weeks				
M.E.	300 (Machine Design)	2	0	1	2

FOURTH YEAR (Not offered until 1960-61)

Philosophy	25b	3	0	0	0
Humanities	Option	2	0	2	0
Phys.	36x (Modern Physics)	2	0	2	0
G.E.	400a (Engineering Profession, Law)	2	0	2	0
G.E.	401b (Engineering Economics, Business)	0	0	2	0
G.E.	402b (Nuclear Engineering)	0	0	2	0
G.E.	403b (Thesis and Seminar)	0	0	1	2
C.E.	400y (Construction, Contracting)	1	0	1	0
C.E.	401b (Foundations, Masonry Structures)	0	0	3	0
C.E.	402 (Theory of Structures II)	2	0	2	0
C.E.	403 (Structural Design)	0	6	0	6
C.E.	404a (Municipal Engineering)	3	0	0	0
C.E.	405 (Sanitary Engineering)	2	3	2	3
M.E.	400 (Adv. Fluid Flow, Machinery)	2	3	2	3

III. ELECTRICAL ENGINEERING.

SECOND YEAR

Philosophy	25a	0	0	3	0
Theology	24 or Philosophy 22	2	0	2	0
Math.	25 (Interm. Calculus, Differ. Equations)	3	0	3	0
Phys.	27 (Intro. to Thermodynamics)	2	3	2	3
E.S.	200 (Engin. Mechanics II)	2	0	2	0
E.S.	201 (Strength of Materials)	2	1½	2	1½
E.S.	202a (Engineering Materials)	3	0	0	0
E.S.	203b (Principles of Metallurgy)	0	0	2	0
E.E.	201 (Electrical Engin. Math.)	2	2	2	2
E.E.	202a (Electrical Fundamentals)	2	3	0	0
E.E.	203b (Electrical Machines I)	0	0	2	3

	First	Second
	Semester	Semester
	Lect.Lab.	Lect.Lab.

THIRD YEAR

History 10 or 36.....	3	0	3	0
Math. 35 (Methods of Applied Math).....	2	0	2	0
E.S. 300 (Fluid Mechanics)	2	1½	2	1½
E.S. 302a (Engineering Thermodynamics)	2	1½	0	0
E.S. 302b (Introduction to Heat Transfer).....	0	0	2	1½
E.E. 300 (Electromagnetic Theory)	2	3	2	0
E.E. 301 (Electric Circuits)	2	0	2	3
E.E. 302b (Electrical Machines II)	0	0	2	3
E.E. 303 (Electronics)	2	2	2	0
E.E. 304a (Electrical Measurements)	2	3	0	0
M.E. 300 (Machine Design)	2	0	1	2

FOURTH YEAR (Not offered until 1960-61)

Philosophy 25b	3	0	0	0
Humanities Option	2	0	2	0
Phys. 36x (Modern Physics)	2	0	2	0
G.E. 400a (Engin. Profession, Law).....	2	0	0	0
G.E. 401b (Engin. Economics, Business)	0	0	2	0
G.E. 402b (Nuclear Engineering)	0	0	2	0
G.E. 403b (Thesis and Seminar).....	0	0	1	2
E.E. 400 (Electrical Machines II)	2	3	2	3
E.E. 401 (Circuit Analysis)	2	3	2	3
E.E. 402 (Applied Electronics)	2	3	2	3
E.E. 403 (Power Transmission)	2	2	2	2
E.E. 404 (Communications) ..	1	3	1	3

IV. MECHANICAL ENGINEERING.

SECOND YEAR

Philosophy 25a	0	0	3	0
Theology 24 or Philosophy 22.....	2	0	2	0
Math. 25 (Interm. Calculus, Differ. Equations) 3	0	3	0	
Phys. 27 (Intro. to Thermodynamics).....	2	3	2	3
E.S. 200 (Engineering Mechanics II).....	2	0	2	0
E.S. 201 (Strength of Materials).....	2	1½	2	1½
E.S. 202a (Engineering Materials)	3	0	0	0
E.S. 203b (Principles of Metallurgy)	0	0	2	0
E.E. 202a (Electrical Fundamentals)	2	3	0	0
E.E. 203b (Electrical Machines I).....	0	0	2	3
M.E. 200 (Mechanics of Machinery)	2	3	1	3
M.E. 201y (Mechanical Drawing)	1	3	0	3

	First Semester Lect.Lab.	Second Semester Lect.Lab.
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THIRD YEAR

History 10 or 36.....	3	0	3	0
Math. 35 (Methods of Applied Math.).....	2	0	2	0
E.S. 300 (Fluid Mechanics) ..	2	1½	2	1½
E.S. 301y (Engineering Metallurgy) ..	1	1½	1	1½
E.S. 303 (Engineering Thermodynamics)	2	1½	2	1½
E.S. 304 (Principles of Heat Transfer).....	2	1½	2	1½
C.E. 301a (Theory of Structures).....	2	3	0	0
E.E. 301x (Electric Circuits)	2	0	2	0
E.E. 302b (Electrical Machines II)	0	0	2	3
M.E. 301 (Machine Design I).....	2	3	3	3

FOURTH YEAR (Not offered until 1960-61)

Philosophy 25b	3	0	0	0
Humanities Option	2	0	2	0
Phys. 36x (Modern Physics)	2	0	2	0
G.E. 400a (Engineering Profession, Law).....	2	0	0	0
G.E. 401b (Engineering Economics, Business) ..	0	0	2	0
G.E. 402b (Nuclear Engineering)	0	0	2	0
G.E. 403b (Thesis and Seminar).....	0	0	1	2
M.E. 400 (Adv. Fluid Flow, Machinery).....	2	3	2	0
M.E. 401 (Machine Design II).....	2	3	2	3
M.E. 402 (Heat Power, Controls).....	2	0	2	3
M.E. 403 (Engines, Turbine Principles)	2	3	3	3
M.E. 404a (Heating, Air Conditioning).....	2	3	0	0

V. ENGINEERING PHYSICS

Admission requirements: Completion of the First Year of Engineering with at least 66% average in Physics and Mathematics and an overall overage of 60%.

First Semester Lect.Lab.	Second Semester Lect.Lab.
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SECOND YEAR

Philosophy 25a	0	0	3	0
Theology 24 or Philosophy 22.....	2	0	2	0
Chem. 244 (Physical Chemistry)	2	0	2	0
Math. 254 (Intermed. & Adv. Calculus).....	3	1	3	1
Phys. 222 (Optics)	2	3	2	3
Phys. 223 (Electricity, Magnetism)	2	3	2	3
E.S. 201 (Strength of Materials).....	2	1½	2	1½
E.S. 202a (Engineering Materials)	3	0	0	0
E.S. 203b (Principles of Metallurgy)	0	0	2	0

THIRD YEAR (Not offered until 1960-61)

History 10 or 36.....	3	0	3	0
Math. 354 (Differential Equations)	3	0	3	0
Phys. 331 (Thermodynamics)	2	2	2	2
Phys. 336 (Modern Physics)	2	2	2	2
Phys. 350 (Theoretical Physics I).....	3	0	3	0
E.S. 300 (Fluid Mechanics) ..	2	1½	2	1½
E.S. 305 (Physical Metallurgy I).....	2	1½	2	1½
E.E. 303 (Electronics)	2	2	2	0

FOURTH YEAR (Not offered until 1961-62)

Philosophy 25b	3	0	0	0
Humanities Option	2	0	2	0
Math. 438y (Complex Variable)	1	0	1	0
Phys. 450 (Theoretical Physics II).....	2	0	2	0
Phys. 451 (Mathematical Methods)	2	0	2	0
Phys. 452 (Physical Optics)	2	0	2	0
G.E. 403b (Thesis and Seminar).....	0	0	1	2

and ANY ONE of the following options:

A. METALLURGY:

Phys. 442a	(Crystallography) ..	2	0	0	0
Phys. 442b	(X-Rays, Spectroscopy) ..	0	0	2	0
Phys. 466	(Solid State, Nuclear Physics) ..	2	0	2	0
E.S. 400	(Physical Metallurgy II) ..	2	6	2	6

B. X-RAYS AND SPECTROSCOPY:

Phys. 442a	(Crystallography) ..	2	0	0	0
Phys. 442b	(X-Rays, Spectroscopy) ..	0	0	2	0
Phys. 470	(Senior Physics Lab.) ..	1	5	1	5
E.E. 402	(Applied Electronics) ..	2	3	2	0

C. HEAT ENGINEERING:

Phys. 466	(Solid State, Nuclear Physics) ..	2	0	2	0
E.S. 304	(Principles of Heat Transfer) ..	2	1½	2	1½
M.E. 400	(Adv. Fluid Flow, Machinery) ..	2	3	2	0

BACHELOR OF SCIENCE IN NURSING

I. REGULAR PROGRAM.

Admission requirements: Grade XIII English, Chemistry, Botany, Zoology, another language and one other subject (or Preliminary Year Nursing, see p. 56), and successful completion of the following year in Arts and Science.

First Year Pre-Nursing

English 15	Botany 16b
Psychology 15	Chemistry 16
Sociology 11a	Philosophy *15a, 25b
*Speech 15y, *Library Science	*Theology 24a or *Option

(*) Omit if taken in Preliminary Year.

After completing the above year, students must enter a hospital school of nursing, approved by the Dean of Nursing, for professional training. After completing this, students re-enter the University for an additional year of specialized preparation in the field of Nursing Education or Public Health Nursing, as follows:

Final Year (Nursing Education option)

Psychology 21, 26a, 31
Nursing 30, 31, 32b, 33a

Final Year (Public Health Nursing Option)

Psychology 21, 26a, 31
Nursing 30, 32b, 34, 35, 39b

II. DEGREE COURSE FOR GRADUATE NURSES.

Admission requirements:

- (a) Grade XIII English, Chemistry, Botany, Zoology, another language, and one other subject (or equivalent).
- (b) Nurse's registration.
- (c) Membership in a Provincial Association of Nurses.

Students admitted to this two-year program leading to the degree of Bachelor of Science in Nursing take the First Year and the Final Year of the Regular Program outlined above.

Applicants who hold certificates or diplomas of specialized professional study at another University are required to complete at least one semester of full-time study through the Department of Nursing of Assumption University of Windsor in addition to Arts and Science subjects of the degree course.

DIPLOMA COURSES FOR GRADUATE NURSES

Admission requirements:

- (a) Grade XII complete (see p. 55). Preference will be given to applicants with Grade XIII standing.
- (b) Nurse's registration.
- (c) Membership in a Provincial Association of Nurses.

These courses extend over one full academic year and consist of the following subjects:

Nursing Education

Psychology 21, 26a
Philosophy 15a, 25b
Sociology 11a

Orientation & Library Science
Nursing 30, 31, 32b, 33a
Conference and seminars

Public Health Nursing

Psychology 21, 26a
Philosophy 15a, 25b
Sociology 11a

Orientation & Library Science
Nursing 30, 32b, 34, 35, 39b

Observation periods, a few seminars, and field practice, are component parts of the course on both diploma and degree levels.

GRADUATE STUDIES

The Committee on Graduate Studies:

Professor Crowley, Chairman; Professor McCann, Secretary; Professors Adelman, DeMarco, Garvey, Horne, Mulvihill, Phillips; Associate Professors Benedict, Manley, Miller; Assistant Professors Campbell, Eliopoulos, Fehr, Krause, Pappert, C. Swan; the Dean of Arts and Science; the Registrar.

The Committee on Admissions for Graduate Studies:

The Chairman of the Graduate Committee; the Registrar; the Dean of Arts and Science; two members of the Department in which the student seeking admission wishes to do his graduate work.

1. Admission requirements: A candidate for the Master's Degree must be a graduate of a recognized college or university with an average of B standing or its equivalent in his major subject. Graduates of this or other recognized colleges or universities may be accepted as candidates for the degree after they have presented to the Chairman of the Committee on Graduate Studies official evidence of graduation and have satisfied the Head of the Department concerned as to their qualifications. Students lacking such qualifications may be admitted under such conditions as the Graduate Committee on Admissions may determine.

2. Period of Study: The duration of the course will be adjusted individually for each candidate. A minimum of one year in residence will be required of graduates from Honours Courses. If more than six hours a week are spent in teaching or other departmental duties, additional time will be required. An additional year will be required of candidates with a general course degree.

3. Course of Study: The choice of subjects must be approved by the Head of the Department in which the student is majoring and by the Chairman of the Committee on Graduate Studies. Each graduate student shall, moreover, complete satisfactorily a course in methodology.

Within one month after a candidate's registration, the Head of his Department shall appoint his committee, to consist of his chief adviser, as chairman, and two others (one of whom shall belong to a department other than the one in which the student is majoring). The Head of the Department will then report to the Committee on Graduate Studies the composition of each candidate's committee.

Copies of the candidate's prospectus (outlining the subject of the proposed research) shall be submitted to the Head of his Department and to the Committee on Graduate Studies at least six months before he proposes to take his final examination.

If a candidate does not maintain a satisfactory standing in all his work, his committee may at any time recommend that he discontinue his course.

4. **Language requirements:** It is essential that the candidate for the Master's Degree in Arts or in Science have a reading knowledge of at least one language other than English. The language shall be chosen in consultation with the Head of the Department in which the student is majoring. The candidate must furnish evidence of such reading knowledge by passing an examination conducted by the language department concerned at the commencement of the student's graduate studies. If the nature of a candidate's research makes it desirable, a department may require him to show reading knowledge of a second foreign language.

5. **Thesis:** A thesis, incorporating the results of an investigation in the field of the major subject, is required of candidates for the M.Sc. degree in Biology, in Chemistry and in Physics, and of candidates for the M.A. degree who have chosen the first course of studies mentioned below. (p. 103).

The candidate, when requested, shall submit to his chief advisor from time to time portions of his thesis and a complete draft on a date specified by his advisor. He shall make final revisions demanded by his advisor or committee and place THREE typewritten copies of the completed thesis (FOUR copies for M.Sc. candidates) in the hands of his advisor or the chairman of his committee FOUR weeks before convocation. The members of the candidate's committee should sign the thesis, when approved, on a page immediately following the title page. He shall submit with his thesis three (or four) copies of an abstract of not more than three hundred words and three (or four) copies of a vita. The abstract will be bound with the thesis immediately following the certificate of approval; the vita at the end of the work. An additional abstract is required for national bibliographical purposes. The candidate should consult the University Librarian regarding its form.

The Head of the Department, in consultation with the chairman of the candidate's committee, may request that a thesis be read by an external examiner.

Candidates will be provided with definite instructions regarding approved methods of typewriting, bibliography, footnotes, etc. An acceptable format may be consulted in the University Library. The regulations of the Library as to binding, quality of paper, title page and margins must be fulfilled. Arrangements for binding copies of the thesis shall be made by the candidate with the Librarian and the fee of \$4.00 a copy for binding made to the Library. If the candidate wishes to have an additional copy bound for his own use, the Librarian will make the necessary arrangements on the payment of an additional \$4.00.

If approved, the thesis shall become the property of the University. Two copies of the thesis, the original and the first carbon

copy, will be filed in the University Library and one copy (or two copies) in the Department.

The regulations contained herein concerning the thesis apply, *mutatis mutandis*, to the major paper required of candidates.

6. Examinations: A department may require oral or written examinations or both and may decide in the case of the individual candidate the type of examination required. A department may, at its discretion, require a comprehensive examination.

Notice of the type of examination shall be given by the Head of the Department to the candidate at least two months before the date on which the examination is to be held.

Each candidate for the Master's degree shall be required to appear before the Committee on Graduate Studies for an oral examination on his thesis, or in cases where no thesis has been written, on the candidate's field. The examiners of the thesis and the oral shall be appointed by the Committee on Graduate Studies on the recommendation of the Head of the Department concerned. There will be at least three examiners, of whom at least one will, when practicable, be outside the department concerned. The Chairman of the examiners will be appointed by the Committee on Graduate Studies. The Supervisor or chief advisor will, in addition, be present at the oral examination but will not question the candidate except with the permission of the Chairman. A candidate must obtain a standing of at least 66% on his thesis as well as on all written and oral examinations in his major subjects.

The Master's degree with Honours may be granted to a candidate on the recommendation of the committee in charge of the candidate's research and with the approval of the Committee on Graduate Studies. It will be granted not on the basis of any specific percentage but only in recognition of outstanding achievement.

7. Graduation: In order to allow the necessary time for the printing of the diploma and the Convocation program, the candidate's completed work must be approved by the Committee on Graduate Studies and his thesis accepted by the Library two weeks before Convocation.

8. Fees: Before a candidate is eligible for his degree he must have paid his complete tuition fee, and the fee of \$4.00 a copy to the Library for the binding of his thesis.

9. Departmental Regulations: The various departments of the University may enforce additional regulations which have been approved by the Committee on Graduate Studies.

MASTER OF ARTS

The course of study shall be arranged in one of the following ways:

- (i) At least two and not more than three graduate courses, one of which may be in a cognate field, plus a thesis; or
- (ii) Three graduate courses, one of which must be a seminar course including a major paper upon which there shall be an oral examination.

Department of English

Professor: Rev. C. P. J. Crowley, C.S.B., Ph.D., Head of the Department.

Associate Professor: Mary J. Manley, Ph.D.

Assistant Professors: John F. Sullivan, Ph.D.

Rev. E. C. Pappert, C.S.B., Ph.D.

Eugene J. McNamara, M.A.

Lecturers: Homer F. Plante, M.A.; Rev. R. J. Madden, C.S.B., M.A.

500—Thesis: Topic, director, and value to be approved by the Head of the Department.

501—Tutorial: Instructors to be assigned.

560—Philosophical Principles of Literary Criticism.

561—Literature of the Renaissance (Non-Dramatic).

566—Renaissance Drama.

580—The Eighteenth Century.

585—The Romantic Period.

591—The Victorian Period.

595—American Literature.

597—Literature of Canada.

599—Recent Literature.

Department of History

Professor: Rev. D. J. Mulvihill, C.S.B., Ph.D., Head of the Department.

Associate Professor: Most Rev. C. L. Nelligan, D.D., B.A.

Assistant Professors: Rev. F. J. Boland, C.S.B., Ph.D.

Conrad M. J. F. Swan, Ph.D.

500—Thesis: Topic, director and value to be approved by the Head of the Department.

510—Historical Method, Historiography and Bibliography.

520—History of Canada, 1867-1945.

530—British political and social thought from 1832-1914. A seminar and selected reading course.

Department of Philosophy

Professor: Rev. E. C. Garvey, C.S.B., Ph.D., Head of Department.

Associate Professor: Rev. R. G. Miller, C.S.B., Ph.D.

Assistant Professors: Rev. P. J. M. Swan, C.S.B., Ph.D.

Charles Fay, Ph.D.

Patrick Francis Flood, M.A.

Lecturer: John N. Deck, M.A.

500—Thesis: Topic, director and value to be approved by the Head of the Department.

551—Problems in Metaphysics.

552—Texts of St. Thomas Aquinas.

553—Problems in Greek Thought.

554—Problems in History of Mediaeval Philosophy.

555—Problems in History of Modern Thought.

556—Philosophy of Education.

557—Problems in Social Philosophy.

558—Problems in Practical Philosophy.

Department of Psychology

Professor: Brother R. Philip, F.S.C., Ph.D., Head of Department.

Associate Professor: Rev. M. A. Record, C.S.B., M.A.

Assistant Professors: Rev. R. C. Fehr, C.S.B., Ph.D.

W. R. Mann, M.A.

Lecturer: Rev. T. J. McGouey, C.S.B., B.A.

Instructor: Mrs. W. R. Mann, M.A.

The course of study will be at least two and not more than three graduate credit courses, one of which may be in a cognate field, and a thesis.

500—Thesis.

510—Advanced Experimental Psychology.

520—Research Methods in Psychology.

530—Systematic Psychology.

540—Psychoanalysis and Related Fields.

550—Advanced Projective Techniques.

560—Counselling and Psychotherapy.

570—Clinical Practicum.

MASTER OF BUSINESS ADMINISTRATION

Department of Business Administration

Professor:	G. R. Horne, B.A., M.A., Ph.D. (Head of Department)
Assistant Professors:	J. M. Brownlie, B.A., M.B.A. J. B. Gertz, B.S., M.B.A. Michael Zin, B.Comm., M.B.A.
Lecturers:	Wilfred Hanson, B.Comm., M.B.A. Mrs. N. J. Surbeck, B.A., M.A.
Instructors: (part-time)	R. W. Meanwell, B.A., C.A. A. C. Padmos, B.A., Barrister-at-Law.

The purpose of the Master of Business Administration program is to provide broad post-graduate studies in the general field of business administration. The graduate student is afforded the opportunity to expand his knowledge of the principal phases of business administration, and thereby be prepared for responsible performance in private business and public service careers.

The general principles of management are emphasized throughout the program; this approach is supplemented by the use of the case method of instruction to bring reality to the studies.

Particular admission requirements:

1. In addition to the admission requirements listed above in (1), p. 100, an applicant for admission to the M.B.A. course who has not completed a formal course in the principles of economics must make up the deficiency.

2. For applicants possessing the Bachelor of Commerce General Degree, or equivalent, a make-up year will be required in which the student will take six full courses, as approved by the Head of the Department of Business Administration. No more than four of these may be in Business Administration subjects.

3. Graduates with the Bachelor of Commerce Honours (4 years from Grade XIII) from this or other universities, with second class standing, who have done satisfactory work in all the subjects included in the first year of the Master's program as indicated below, are eligible to complete the degree in one year.

4. Graduates who have done work elsewhere comparable to that included in the first year of the Master's program here will be eligible to enter the second year.

5. A student with a university degree, who has completed the six courses leading to the Diploma in Business Administration at this University may receive credit for up to five of the six courses required for the first year of the M.B.A. program.

Students are admitted to the second year if they have secured an average of second class honours in the required subjects of the first year.

Evening Students. Provision is made for candidates in full-time employment to spread the work for the degree over a number of years. There is no time limit for the work of the first year but the work of the second year must be covered in not more than four consecutive years. Only two subjects may be taken concurrently by part-time students.

First Year

- Bus. Ad. 489—Accounting
- Bus. Ad. 490—Statistical Methods in Business
- Bus. Ad. 491—Marketing
- Bus. Ad. 493—Corporation Finance
- Bus. Ad. 494—Production
- Bus. Ad. 496—Introduction to Administration

Second Year

- Bus. Ad. 515—Business Policy
or 554—Administrative Problems
- Bus. Ad. 560—Accounting (Administrative)

And three courses chosen from:

- Bus. Ad. 515—Business Policy
- Bus. Ad. 546—Personnel Administration
- Bus. Ad. 551—Marketing Management
- Bus. Ad. 553—Business Finance
- Bus. Ad. 554—Administrative Problems
- Bus. Ad. 555—Statistical Analysis
- Bus. Ad. 563—Investments
- Bus. Ad. 564—Production Management
- Bus. Ad. 566—Human Relations in the Industrial Community
- Bus. Ad. 571—Public Administration

One subject (for which the student must have the undergraduate qualifications) from other graduate courses, if approved by the Head of the Department of Business Administration and the Department concerned.

In addition to the subjects listed, the student is required to prepare a dissertation on some research subject.

MASTER OF SCIENCE

Department of Biology

Professor: Rev. A. J. Grant, C.S.B., M.A., Head of Department.

Associate Professor: W. G. Benedict, Ph.D.

Assistant Professors: R. J. Doyle, M.A., M.S.
C. C. Kuehner, Ph.D.
Miss M. L. Moss, M.S.

Lecturers: Rev. J. R. Dougherty, C.S.B., B.A.
Sr. Michael Mary, S.N.J.M., B.A.
M. L. Petras, M.Sc.

The course of study shall be three full graduate courses and a thesis

500. **Thesis.**

536. **Microbial Physiology:** An intermediate course in microbial physiology consisting of lectures and laboratory.
2 lectures and 4 laboratory hours per week. Full course.

538. **Microbial Genetics:** An advanced course in genetics of fungi, bacteria and protozoa.
2 lectures and 3 laboratory hours per week. Full course.

539a. **Biostatistics:** Elementary probability, analysis of distribution, the Normal, Poisson and Probability distributions, sampling, tests of significance, curve-fitting and statistical design applied to biological data.
2 lectures per week, one semester (half course).

550y. **Seminar:** Presentation and discussion of brief reviews of current biological literature.
1 hour per week. Half course.

Department of Chemistry

Professors: M. Adelman, M.A.Sc., Ph.D., Acting Head of Department;
F. A. DeMarco, M.A.Sc., Ph.D.

Associate Professor: R. G. Billingham, M.A.Sc.

Assistant Professors: A. Gnyp, M.A.Sc., Ph.D.

K. G. Rutherford, B.A., M.S., Ph.D.

R. J. Thibert, B.A., M.S.

Lecturer: G. W. Kosicki, C.S.B., B.A., M.S.

The course of study shall be at least three and not more than five graduate courses, one of which must be in a cognate field, plus a thesis.

All courses listed will not necessarily be offered in any one year.

I. Analytical Chemistry

532. **Advanced Analytical Chemistry:** The analysis of alloys, minerals, and ores employing titrimetric, gravimetric, and instrumental methods. (Prerequisite: Chemistry 332).

1 lecture, 3 laboratory hours per week.

542. **Radiochemistry:** Properties and safe handling of radioactive substances. Experiments dealing with the identification and use of various radioactive isotopes and the application of tracer techniques to various fields of chemistry. (Prerequisite: Chemistry 235 and 344).

2 lectures, 3 laboratory hours per week. One semester.

II. Biochemistry

546. **Clinical Biochemistry:** A consideration of the biochemistry of disease. (Prerequisite: Chemistry 446).

2 lectures, 3 laboratory hours per week. One semester.

556. **Intermediary Metabolism:** An intensive study of the metabolism of carbohydrates, proteins, and lipids. (Prerequisite: Chemistry 446).

3 lectures per week.

566. **Physical Biochemistry:** A consideration of the applications of thermodynamics, kinetics, electrochemistry, and colloids to biochemistry and biological phenomena. (Prerequisite: Chemistry 444, 445, and 446).

3 lectures per week.

III. Inorganic Chemistry

535a. **Chemistry of the Coordination Compounds:** Chemistry of complex inorganic compounds with special emphasis on structure and isomerism of complexes; magnetochemistry and stabilization of unusual oxidation states. (Prerequisite: Chemistry 235 and 344).

2 lectures per week. One semester.

535b. **Chemistry of the Less Familiar Elements:** (Prerequisite: Chemistry 235).

2 lectures per week. One semester.

545. **Inorganic Preparations:** Preparation of a number of inorganic compounds utilizing techniques such as fractional crystallization, distillation, and sublimation, etc. (Prerequisite: Chemistry 235).

1 lecture, 3 laboratory hours a week.

IV. Organic Chemistry

533a. **Physical Organic Chemistry:** Mechanisms of organic reactions and the effect of structure on reactivity in organic reactions. (Prerequisite: Chemistry 333 and 344).

2 lectures per week. One semester.

533b. **Heterocyclic Compounds:** The chemistry of the heterocyclic organic compounds. (Prerequisite: Chemistry 333).

2 lectures per week. One semester.

543. **Advanced Organic Laboratory:** Organic preparations of some more difficult compounds. (Prerequisite: Chemistry 333).

1 lecture, 3 laboratory hours per week.

553. **Chemistry of the Natural Products:** Chemistry of the important naturally occurring products such as vitamins, hormones, steroids. (Prerequisite: Chemistry 333).

2 lectures per week. One semester.

V. Physical Chemistry

544a. **Advanced Colloid Chemistry:** Theory and modern methods in colloid chemistry including colloids in biology and in high polymer chemistry. (Prerequisite: Chemistry 445).

2 lectures per week. One semester.

544b. **Quantum Chemistry:** The principles of quantum mechanics applied to Chemistry. (Prerequisite: Chemistry 444).

2 lectures per week. One semester.

554. **Advanced Physical Chemistry Laboratory.**

1 lecture, 3 laboratory hours per week.

564. **Statistical Thermodynamics:** Advanced thermodynamics designed to show relationship between the kinetic theory and thermodynamic functions. (Prerequisite: Chemistry 444).

3 lectures per week. One semester.

VI. 500. **Thesis.**

VII. 550. **Seminar.**

The Chemistry Department plans to introduce a program leading to the Ph.D. degree in Chemistry in the fall of 1960.

Department of Mathematics

Associate Professor: Rev. D. T. Faught, C.S.B., M.A.,
Head of Department.

Assistant Professors: L. L. Campbell, M.S., Ph.D.
H. A. Eliopoulos, M.Sc., Ph.D.
Rev. W. F. Nigh, C.S.B., M.A.
E. Zakon, Dr.Jur.

Instructor: W. R. Gee, B.Sc.

The course of study shall be either four graduate courses or three graduate courses and a major paper, upon which there shall be an oral examination.

I. Pure Mathematics

- 501—Advanced Modern Algebra.
- 502—Selected Topics from Set Theory and Point Set Theory.
- 503—Group Representations and Spinor Calculus.
- 504—Mathematical Logic.
- 505—Advanced Geometry.
- 506—Introduction to the Differential Geometry in the Large.
- 507—Functions of a Real Variable.
- 508—Theory of Integration.
- 509—Integral Transforms.
- 510—Partial Differential Equations.
- 511—Fourier Analysis.

II. Applied Mathematics

- 550—Advanced Quantum Mechanics and Quantum Field Theory.
- 551—Group Theory and Quantum Mechanics.
- 552—Unified Field Theories.
- 553—Relativistic Celestial Mechanics and Cosmology.
- 554—Random Noise Theory.
- 555—Information Theory.
- 556—Advanced Electromagnetic Theory.
- 557—Hydro- and Aerodynamics.
- 558—Mathematical Theory of Elasticity.
- 559—Equations of Mathematical Physics.
- 560—Rheology.

Department of Physics

Assistant Professors: J. Huschilt, M.A. (Acting Head of Department)
G. Duwalo, M.A., Ph.D.
L. Krause, Ph.D., A.Inst.P.

Lecturer: R. H. Koenig, M.Sc.

Sessional Instructor: I. H. Brockman, B.E.

Demonstrator: J. Csendes, Ph. D., Ll.D.

The course of study shall be at least two and not more than three graduate courses and a thesis. One of the two courses may be selected from among undergraduate or graduate courses in a cognate field.

500—Thesis.

✓ 526—Molecular Physics and Spectroscopy.

✓ 550—Introductory Quantum Mechanics.

DETAILS OF SUBJECTS

Subject Code

Courses in the Preliminary Year are numbered 1-9 (General); courses in the First Year are numbered 10-19 (General); courses in the Second Year are numbered 20-29 (General) and 200-299 (Honours); courses in the Third Year are numbered 30-39 (General) and 300-399 (Honours); courses in the Fourth Year are numbered 400-499 (Honours). Graduate courses are numbered 500-599.

A course designated by the letter "A" only, is, in difficulty and weight, equal to a Secondary School Grade Twelve (Ontario) course in the same subject.

Every subject extends over the complete academic year (two semesters) and counts as a full course, except where otherwise indicated. A course whose number is followed by "a", "b", or "y" is a half course, given usually in the first semester, the second semester, or throughout the year, respectively. For semester hour equivalents, see p. 178.

The above code was adopted in 1958.

ANTHROPOLOGY

Officer of Instruction: Assistant Professor: Charles Fay, M.A., Ph.D.

✓ 10. **Introduction to Anthropology:** A study of the social organization and cultural heritage of ancient, primitive and complex cultures.

3 hours a week.

BIOLOGY

Officers of Instruction: Professor: Rev. A. J. Grant, M.A. (Department Head); Associate Professor: W. G. Benedict, Ph.D.; Assistant Professors: R. J. Doyle, M.A., M.S.; C. C. Kuehner, M.Sc., Ph.D.; Miss M. L. Moss, M.S.; Lecturers: Sr. Michael Mary, S.N.J.M., B.A.; Rev. J. R. Dougherty, C.S.B., B.A., M.Sc.; M. L. Petras, M.Sc.

Major and Minor Requirements: Chemistry 1a, 10, 22m, 23, 36x; Physics 1a, 13; Botany 10; Zoology 10, 22; and 3½ courses from the following: Botany 26, 30a, 30b, Zoology 24a, 26, 27, 29y, 30b, 37a.

For Honours Biochemistry, see p. 83; for Honours Biology, p. 84; for graduate courses, p. 107.

I. Biology

✓ 1. **Principles of Biology:** The fundamental principles of biology with stress on the cell as a unit, the origin and preservation of the individual and the race, the mode of inheritance, and the applications of biology to social and economic problems. Illustrated by examples from the botanical and zoological fields.

2 lectures, 3 laboratory hours a week.

II. Botany

✓ 1a. **Elementary Botany:** The basic principles of Botany, including a brief survey of the plant kingdom.

2 lectures, 3 laboratory hours a week; one semester (half course).

✓ 10. **Introductory Botany:** Properties and activities of protoplasm and the anatomy and physiology of roots, stems, leaves, flowers and fruits. Type forms are studied as to their taxonomy, structure, growth, reproduction, ecology and economic importance of the Thallophytes, Bryophytes and Tracheophytes.

2 lectures and 3 laboratory hours a week.

✓ 16b. **Bacteriology for Nurses:** A survey of elementary bacteriology including structure, classification and physiology of bacteria with examination of the micro-organisms of medical importance. (Prerequisites: Biology 1 and Chemistry 1a).

3 lectures and 3 laboratory hours a week; one semester (half course).

✓ 18. **General and Clinical Bacteriology:** A survey of the principles of bacteriology and of diagnostic methods in bacteriology and immunology of use to the laboratory technologist. (Prerequisites: Botany 10, Chemistry 22m, and Chemistry 23; Corequisite: Chemistry 36).

2 lectures, 3 laboratory hours a week.

✓ 26. **General Microbiology:** Introduction to the structure, reproduction, classification, growth and metabolism and control and death of fungi, bacteria and viruses. The special aspects of microbiology, such as sanitary microbiology, immunology, industrial microbiology, microbial genetics and microbiology of special environments will also be surveyed. (Prerequisites: Zoology 10 and Botany 10 and Physics 13 and Chemistry 23).

2 lectures, 3 laboratory hours a week.

✓ 30a. **General Mycology:** A study of the characteristics, habits, and life-histories of various groups of true fungi. (Prerequisites: Botany 26, Chemistry 10).

2 lectures, 3 laboratory hours a week; one semester (half course).

✓ 30b. **Clinical Mycology:** A study of the characteristics, habits, and life-histories of the various groups of higher fungi having clinical importance. Special emphasis is placed upon techniques and morphological characteristics used in the identification of the various mycoses. (Prerequisites: Botany 26, Chemistry 10).

2 lectures, 3 laboratory hours a week; one semester (half course).

Honours Courses

✓ 243. **Plant Taxonomy:** Collection, identification and classification of the flowering plants. (Prerequisite: Botany 10).

2 lectures and 3 laboratory hours a week.

✓ 333. **Green Cryptogams:** Gross and microscopic analysis, collection and identification of representative members of the green non-flowering plants up to and including the Pteropsida. (Prerequisite: Botany 10).

2 lectures, 3 laboratory hours a week.

✓ 336. **General Microbiology:** A survey of the important groups of micro-organisms with emphasis upon the bacteria and viruses. Major topics considered will be the cytology, taxonomy, growth, nutrition, physiology, death and variation of these organisms. Minor topics will include host-parasite relations, pathogenicity, chemotherapy, water, food and soil bacteriology. (Prerequisites: Botany 10, Chemistry 23, Zoology 231; Chemistry 36 is advised as a co-requisite).

2 lectures, 3 laboratory hours a week.

✓ 337y. **Ecology:** Relationship of plants and animals with their environments. Individual plants and animals are treated, as well as communities and populations. (Prerequisites: Botany 10 and Zoology 10).

2 lectures a week plus field trips (half course).

✓ 400. **Undergraduate Problems Course in Botany:** The preparation of weekly reading assignments, the collection and preservation of specimens, cultures, slide preparations, etc.; the successful completion of written and oral examinations at the discretion of the Department.

(Full course.)

✓ 440a. **Plant Physiology:** Study of the plant with regards to nutrition, metabolism, growth, absorption and translocation, permeability and water relations. (Prerequisites: Chemistry 23, Botany 10, and Zoology 330b).

2 lectures and 3 laboratory hours a week, one semester (half course).

✓ 446. **General and Clinical Mycology:** A study of the characteristics, habits, and life histories of the various groups of true fungi. In the laboratory, techniques and identification of the clinically important fungi will be included. (Prerequisites: Botany 336 and Chemistry 36).

2 lectures, 3 laboratory hours a week.

III. ZOOLOGY

- ✓ 1a. **Introductory Zoology:** The principles of animal biology as illustrated by the study of certain typical forms; for students in Nursing and Home Economics.
2 lectures, 3 laboratory hours a week; one semester (half course).
- ✓ 10. **Introductory Zoology:** The principles of animal biology as illustrated by a study of the structure and physiology of representative forms.
2 lectures, 3 laboratory hours a week.
- ✓ 13a. **Human Anatomy and Physiology:** A study of the structure of the human body and of the anatomical systems and their functional coordination.
2 lectures, 2 laboratory hours a week; one semester (half course).
- ✓ 13b. **Histology:** Microscopic study of epithelium, connective tissues, blood, muscles and nerves.
2 lectures and 3 laboratory hours a week; one semester (half course).
- ✓ 22. **Comparative Vertebrate Zoology:** Comparative function and structure of vertebrate organ systems. (Prerequisite: Zoology 10 or Biology 1 (60%)).
3 lectures, 4 laboratory hours a week.
- ✓ 24a. **Embryology:** Origin and development of vertebrates. (Prerequisite: Zoology 22).
2 lectures, 3 laboratory hours a week; one semester (half course).
- ✓ 26. **Histology:** Microscopic study of epithelium, connective tissues, blood, muscles and nerves. Also a detailed study of the organs and organ systems of the body. (Prerequisite: Zoology 22).
2 lectures and 3 laboratory hours a week.
- ✓ 27. **Invertebrate Zoology:** A survey of the principal lower animals, including their life cycles, comparative anatomy, physiology and embryology. (Prerequisite: Zoology 10 or Biology 1 (60%)).
2 lectures and 3 laboratory hours a week.
- ✓ 28. **General Entomology:** Internal anatomy and physiology; external anatomy and its extension into the methods of classifying and identifying insect families. Introduction to the paleontological rise of insects, ecological studies and the control of insect pests. (Prerequisites: Zoology 10 or Biology 1 (60%), Botany 10).
2 lectures and 3 laboratory hours a week.
- ✓ 29y. **Principles of Genetics:** An introduction to Mendelian inheritance, chromosome and gene theory, and the genetic concept of species. (Prerequisite: Zoology 10 or Biology 1 and Math 1y or 4).
2 lectures a week (half course).

✓ 30b. **Cellular Physiology:** This course is designed to acquaint the student with the general principles and methods of cellular physiology and with laboratory techniques used in physiological investigation. (Prerequisites: Chemistry 23 and Physics 13. Corequisite: Chemistry 36x).

2 lectures, 3 laboratory hours a week; one semester (half course).

34a. **Hematology:** An introduction to the study of blood and blood-forming organs, with emphasis upon diagnostic methods used by the laboratory technologist. (Prerequisite: Zoology 13b).

2 lectures, 3 laboratory hours a week; one semester (half course).

✓ 37a. **Parasitology:** A study of the various groups of animal parasites from the point of view of morphology, systematics and life history. In the laboratory, the methods of diagnosis of human diseases caused by parasitic protozoa and helminths will be emphasized. (Prerequisite: Zoology 10).

2 lectures, 3 laboratory hours a week; one semester (half course).

Honours Courses

✓ 231. **Comparative Vertebrate Zoology:** Phylogeny of the chordates; comparative analysis of the various organ systems and their physiology in Chordates; selected reading and discussions. (Prerequisite: Zoology 10).

3 lectures, 4 laboratory hours a week.

✓ 330b. **Cellular Physiology:** An introduction to the principal problems and methods of cellular physiology including the effects of environmental factors, structure and function of cell organelles and plasma membrane; growth, respiration and irritability. The laboratory is designed to familiarize the student with some of the basic techniques employed in physiological investigation, notably manometric and electrometric methods. One term paper will be required. (Prerequisites: Chemistry 23, Physics 13; Corequisite: Chemistry 36).

2 lectures, 3 laboratory hours a week; one semester (half course).

✓ 333. **Histology:** A microscopic study of the various tissues and organs with emphasis upon structure as related to function. The first semester is a survey of tissues: epithelium, blood, connective tissue, nervous tissue, cartilage and bone. The second semester is a survey of the various systems: nervous, integumentary, circulatory, digestive, respiratory, urinary, endocrine and the system of sensory receptors. (Prerequisite: Zoology 231).

2 lectures, 3 laboratory hours a week.

✓ 335. **Comparative Invertebrate Zoology:** Phylogeny of the invertebrates; morphology; discussion of various systems and their function; life cycles; embryology; local invertebrate fauna. (Prerequisite: Zoology 10).

2 lectures, 3 laboratory hours a week.

✓ 400. **Undergraduate Problems Course in Zoology:** The preparation of weekly reading assignments, the collection and preservation of specimens, cultures, slide preparations, etc., and the successful completion of written and oral examinations at the discretion of the Department.

(Full course.)

✓ 432a. **Comparative Vertebrate Embryology:** Development of the vertebrates, based mainly on mammalian development, with frequent references to other vertebrates, especially birds; individual projects and reports. (Prerequisite: Zoology 231).

2 lectures, 3 laboratory hours a week; one semester (half course).

✓ 436. **Entomology:** Anatomy, physiology and morphology of the insect body in relation to the identification and classification of insects. Further studies on paleontology, ecology and control of economically important insects. A collection of 100 suitably mounted and named insects is required of each student in this course.

2 lectures, 3 laboratory hours a week.

✓ 438x. **Genetics:** An introduction to Mendelian genetics, chromosome and gene theory, genetic cytology and structure of genetic apparatus, linkage and crossing-over, sex-determination and linkage, cytogenetic aberrations, the nature and action of the gene, mutation and population genetics. (Prerequisites: Chemistry 36, Mathematics 1y or 4, Zoology 10).

2 lectures a week.

440a. **Animal Physiology:** A survey of the functions of the animal body with emphasis on the principles of chemistry and physics involved. Major topics considered will be blood and circulation, neuromuscular physiology, respiration, digestion, metabolism, endocrine glands, renal function and the nervous system. (Prerequisites: Chemistry 23, Physics 13, Zoology 231 or 22).

3 lectures, 3 laboratory hours a week; one semester (half course).

✓ 441a. **History of Biology:** A study of the main contributions to Biology from the Greek period to the present time.

3 lectures a week, one semester (half course).

✓ 442b. **Evolution:** Topics included are history of evolution, basic evidence for evolution, summary of phylogeny of plants and animals, processes of evolution in terms of recent work, and the evaluation of evolution in terms of philosophy.

3 lectures a week, one semester (half course).

443. **Biotechniques:** Topics included are photography as applied to Biology, advanced microtechnique in Bacteriology and Histology, instrumentation (principles and methods of use of some instruments used in biological research) and the preparation of animals for anatomical and morphological studies.

2 lectures and 3 laboratory hours a week.

✓ 447b. **Parasitology:** A study of the various groups of animal parasites from the point of view of morphology, systematics and life history. In the laboratory, the methods of diagnosis of human diseases caused by parasitic protozoa and helminths will be emphasized and the identification of arthropods of medical significance will be considered. (Prerequisites: Zoology 10, Chemistry 36, Zoology 333 recommended).

2 lectures, 3 laboratory hours a week; one semester (half course).

BUSINESS ADMINISTRATION

Officers of Instruction: Professor: G. R. Horne, Ph.D. (Department Head); Assistant Professors: J. M. Brownlie, M.B.A.; J. B. Gertz, M.B.A.; M. Zin, M.B.A.; Lecturers: W. Hanson, M.B.A.; Mrs. N. J. Surbeck, M.A.; Instructors: R. W. Meanwell, B.A., C.A.; A. C. Padmos, B.A., Barr.-at-Law.

For Honours Business Administration program, see p. 79; for general Bachelor of Commerce, p. 81; for Diploma course, p. 80; for graduate courses, p. 106.

- ✓ 15. **A survey course in Business Organization and Management:** A study of business organization, promotion of business enterprises, business finance, industrial management, marketing, administrative controls and investment policies, with the aid of cases. 3 hours a week.

Honours Courses

- ✓ 250. **Principles of Accounting:** An introduction to accounting concepts and techniques as tools for administration of the economic activity of the business enterprise; recording, reporting and interpreting the financial data of the business unit.

3 lectures, 2 laboratory hours a week.

- ✓ 346a. **Introduction to Personnel Management:** An analysis of the basic principles and procedures to be used in organizing and motivating a work force, with special emphasis on the role of the personnel staff specialist. Recruitment, selection and placement of employees, occupational movements, wage and salary administration, employee services, and education and training of employees and executives.

3 hours a week, one semester (half course).

- ✓ 346b. **Industrial Relations:** The impact of management and union institutions on employee relations. The case method is used in covering such topics as labour union structure, aims and operations, management objectives and functions, collective bargaining agreements, industrial conflict and dispute settlements, labour relations legislation and public intervention in management-union activities.

3 hours a week, one semester (half course).

- ✓ 350. **Intermediate Accounting:** Cash and receivables, inventories, investments, plant assets and depreciation, wasting assets and depletion, intangibles, accounting for capital stock, dividends, surplus, reserves, bonds. Some attention is devoted to statement analysis and special statements, including the statement of application and source of funds.

3 hours a week.

✓ 351. **Principles of Marketing:** An introduction to the major problems of management in moving goods from the producer to the consumer. The development of skill in weighing alternatives and reaching mature decisions is a significant objective of the course.

3 hours a week.

✓ 353. **Corporate Financial Policies:** The first semester reviews the fundamentals of business finance, applying financial principles to the several forms of business organization. The second semester uses the case method to study the problems of financial management confronting large and small businesses. Some aspects of working capital management are studied, as well as an attempt through the analysis of cases to develop sound principles and practices to deal with such matters as corporate capitalization, valuation, capital raising, income administration, and corporate reorganization.

3 hours a week.

✓ 356. **Commercial Law:** Legal approach to business problems. Nature and source of law, crimes, torts, contracts, agency, partnerships, corporations, real and personal property, sales, negotiable instruments, insurance and bankruptcy. A combination of case and textbook approach.

3 hours a week.

✓ 360. **Management Accounting:** Intended for the users of accounting information. Although procedures and techniques are not ignored, the emphasis is on the way in which accounting information can be used in the management process.

3 hours a week.

✓ 450a. **Advanced Accounting:** Home office and branch relations; consolidated statements; governmental accounting; social accounting; special accounting problems; accounting literature and modern thought.

3 hours a week, one semester (half course).

✓ 450b. **Tax Accounting:** Through the use of problems, a survey is made of the Canadian income tax structure and practice, and its effect on individuals, partnerships, and corporations. The course also deals with estate planning and gift taxes.

3 hours a week, one semester (half course).

✓ 451a. **Advertising:** A study of principles and methods of advertising, involving such areas as media, selection, programs, integration and demand factors. Primary emphasis is placed on advertising of consumer products from the point of view of the manufacturer, rather than that of the advertising agency or retailer.

3 hours a week, one semester (half course).

✓ 451b. **Sales Management:** The organization and management of the selling operation, including product development, branding, testing, sales organization and programs, training compensation, pricing.

3 hours a week, one semester (half course).

✓ 452a. **Market Research:** The use of analytical methods to improve the efficiency of marketing operations; development of a broad understanding of the uses and methods of research as applied to marketing.

3 hours a week, one semester (half course).

✓ 452b. **Retailing:** A study of marketing, sales management, advertising and research methods as they apply specifically to the retail field. The approach is from the point of view of both the large and the small retailer.

3 hours a week, one semester (half course).

✓ 453a. **Investment Fundamentals:** This course is basically an examination of the nature of the various types of corporate securities from the viewpoint of the individual investor. Particular emphasis is placed on techniques used by the security analyst.

3 hours a week, one semester (half course).

✓ 453b. **Investment Management:** The main emphasis in this course is placed on the needs of different classes of investors and the shaping of the portfolios thereof. Problems and policies of the individual and institutional investor are analyzed.

3 hours a week, one semester (half course).

✓ 454a. **Industrial Management:** A study of business organization and operations with emphasis on manufacturing controls. Problems of organization of management and administration; location and physical facilities; purchasing and inventory control; production control; wage systems and job evaluation.

3 hours a week, one semester (half course).

✓ 454b. **Administrative Practices:** An analysis of problems arising in the field of human relations throughout the various areas of business enterprise.

3 hours a week, one semester (half course).

✓ 455. **Statistical Methods in Business:** The use of tables and charts, ratios and percentages, computation and use of averages, measures of dispersion, index numbers. In the second semester, time series and correlation are studied. By the use of cases, an attempt is made to illustrate the application of statistical methods in business.

2 lectures, 2 laboratory hours a week.

✓ 456b. **Advanced Personnel Management:** Practical application of personnel principles and techniques to specific situations by use of the case-study method. The student is required to apply the logic of effective thinking to the solution of representative personnel problems. The methodology by which a course of action is determined is stressed, rather than the solution itself. (Prerequisite: Bus. Ad. 346a).

3 hours a week, one semester (half course).

457b. **Business Conditions:** The purpose of this course is to provide background and training in the appraisal of the environment in which business operates. The course deals with the nature and causes of business fluctuations and the forecasting and control of such fluctuations.

3 hours a week, one semester (half course).

459. **Business Research:** An introduction to research methods. The student will select a topic and, under direction, investigate and report upon it. Hours to be arranged (full course).

✓ 460a. **Auditing:** The duties and responsibilities of the auditor. Auditing procedure is studied with respect to the examination of business records and documents in order to determine their authenticity and the reliability of statements prepared from them. Attention is given to the problem of internal control. A sound knowledge of accounting principles is required for the course, which provides for an extensive review of that subject.

3 hours a week, one semester (half course).

✓ 460y. **Cost Accounting:** Development of accounting information which will help management in the minimization of the manufacturing and operating costs of the business; cost accounting systems applicable to various types of production methods; problems of burden allocation, analysis of variances, flexible budgets, the use of standard costs as a device for cost control.

2 hours a week (half course).

CHEMISTRY

1959-60 -
Adel excerpt
325

Officers of Instruction: Professors: Maurice Adelman, M.A.Sc., Ph.D. (Acting Head); F. A. DeMarco, M.A.Sc., Ph.D.; Associate Professors: R. G. Billingham, M.A.Sc.; Assistant Professors: A. W. Gnyp, M.A.Sc., Ph.D.; K. G. Rutherford, B.A., Ph.D.; R. J. Thibert, M.Sc., Ph.D.; Lecturers: Sr. Michael Mary, B.A.; Rev. G. W. Kosicki, C.S.B., B.A., M.S.; Instructor: S. G. Beneteau, B.Sc.

Major and Minor Requirements: Chemistry 1a, 10, 22, 23, 24, 34, and two other options to be chosen from the following: Chemistry 36, 38, 39, 332; Physics 1a, 10, 26; Mathematics 1y, 2y, 3y, 16, 26.

For Honours Biochemistry, see p. 84; for Honours Chemistry, p. 86; for Honours Chemistry and Physics, p. 87; for graduate courses, p. 109.

1a. **Basic Chemistry:** An elementary course on the fundamentals of General Chemistry and the properties of the elements. Laboratory work to teach basic techniques in experimentation.

3 lectures, 3 laboratory hours a week, one semester (half course).

10. **General Chemistry and Qualitative Analysis:** A college course in General Chemistry with special emphasis on the physical aspects. Laboratory work includes one semester of Qualitative Analysis. (Prerequisite: Chemistry 1a or Grade XIII Chemistry).

3 lectures, 3 laboratory hours a week.

16. **General Chemistry:** A survey course covering elementary qualitative and quantitative analysis, introduction to principles and practice of organic Chemistry and biochemistry. Laboratory to illustrate this and provide practice in clinical laboratory methods.

3 lectures, 3 laboratory hours a week.

22. **Quantitative Analysis:** An introductory course in the theory and practice of quantitative analytical chemistry. (Prerequisite: Chemistry 10).

2 lectures, 3 laboratory hours a week.

22m. **Quantitative Analysis:** An introductory course in the theory and practice of quantitative analytical chemistry, with emphasis upon volumetric analysis. (Prerequisite: Chemistry 10).

2 lectures a week, both semesters; 3 laboratory hours a week, one semester (full course).

23. **Organic Chemistry:** A fundamental approach to aliphatic and aromatic chemistry with practical laboratory experience.

2 lectures, 3 laboratory hours a week.

24. **Physical Chemistry:** An introductory course in physical chemistry dealing with the gas laws, the liquid state, electrochemistry, the phase rule, and introductory chemical thermodynamics and kinetics.

2 lectures a week.

32b. **Instrumental Methods:** A course in the principles and applications of the most widely used instruments in chemical laboratory practices.

2 lectures, 3 laboratory hours a week, one semester (half course).

34. **Physical Chemistry:** A continuation of 24 with emphasis on chemical thermodynamics, kinetics and phase equilibria.

2 lectures, 3 laboratory hours a week.

36. **Biochemistry:** An introductory course in biochemistry with practical laboratory exercises. (Prerequisite: Chemistry 22 and 23).

2 lectures, 3 laboratory hours a week.

36x. **Biochemistry:** The same as Chemistry 36, but without laboratory periods.

2 lectures a week.

38. **Intermediate Organic Chemistry:** An intermediate course on the application of stereochemistry, kinetics and thermodynamics to organic chemistry. Heterocyclic compounds and absorption spectra.

2 lectures, 3 laboratory hours a week.

39. **Research Problems.**

Hours to be arranged. (Minimum: 6 laboratory hours a week.)

Honours Courses

232. **Quantitative Analysis:** An introductory course in gravimetric and volumetric analysis.

2 lectures, 6 laboratory hours a week.

233. **Organic Chemistry:** A fundamental approach to aliphatic and aromatic organic chemistry with special emphasis on the molecular orbital and resonance theories.

3 lectures, 3 laboratory hours a week.

244. **Physical Chemistry:** An introductory course.

2 lectures a week.

332. **Intermediate Analytical Chemistry:** A course on quantitative analysis involving instrumental methods and special techniques.

1 lecture, 3 laboratory hours a week.

333. **Intermediate Organic Chemistry:** An intermediate course on the application of stereochemistry, kinetics and thermodynamics to organic chemistry. Heterocyclic compounds and absorption spectra. Laboratory work includes organic qualitative analysis.

2 lectures, 4½ laboratory hours a week.

335. **Inorganic Chemistry:** A study of the elements and their compounds in relation to their periodic arrangement; crystallography.

2 lectures a week.

344. **Physical Chemistry:** Chemical thermodynamics, kinetics, and phase equilibria.

3 lectures, 6 laboratory hours a week.

344e. **Physical Chemistry:** Chemical thermodynamics, kinetics and phase equilibria.

3 lectures a week, both semesters; 6 laboratory hours a week, second semester only.

346. **Biochemistry:** An intensive general course with laboratory exercises designed to acquaint the student with the theory, problems, and laboratory procedures.

3 lectures, 3 laboratory hours a week.

444. **Intermediate Physical Chemistry:** Statistical chemical thermodynamics and kinetics.

3 lectures a week.

445. **Surface Chemistry:** The chemistry of colloids and surface phenomena.

2 lectures a week.

446. **Intermediate Biochemistry:** An intermediate course, including enzymes, hormones and introductory intermediary metabolism. Laboratory work includes isolation and synthesis of natural product, analytical methods, nutrition, intermediary metabolism and physical biochemistry.

3 lectures, 6 laboratory hours a week.

447b. **Electrochemistry:** Fundamental principles of electrochemistry with laboratory exercises.

1 lecture, 3 laboratory hours a week; one semester (half course).

449. **Research:** Original laboratory research in specialized topics.

1 lecture, 15 laboratory hours a week.

450y. **Seminar:** Discussion of selected topics from current literature.

1 hour a week (half course).

CLASSICS

Officers of Instruction: Professor: Rev. J. M. Hussey, C.S.B., M.A. (Department Head); Lecturer: Rev. D. G. Macdonald, C.S.B., M.A.

I. GREEK

12y. **Greek Literature in English Translation:** A survey of Greek literature for those without a reading knowledge of Greek.
1 hour a week (half course).

II. LATIN

✓ A. **Elementary:** The work of Grade XII or its equivalent is covered.

5 hours a week.

✓ 2. Selections from Latin Prose and Poetry; composition and sight translation.

3 hours a week.

✓ 12. Martial; Pliny; Virgil; Aeneid VI; composition; sight translation.

3 hours a week.

✓ 22. Catullus; Virgil, selections from the *Bucolics* and *Georgics*; selection from Horace (*Odes*) and the *Elegaic Poets*; composition and sight translation.

3 hours a week.

23. An introductory course in philosophical Latin, designed to give students in philosophy a reading knowledge of the texts of Thomas Aquinas. (Prerequisite: Latin 2 or equivalent).

2 hours a week.

✓ 24. **Ecclesiastical Latin:** Mediaeval and modern. (For prospective theological students).

3 hours a week.

✓ 31. Virgil, Aeneid I-VI; Horace, *Satires*, *Epistles*; Juvenal, *Satires*; composition, sight translation. (Prerequisite: Latin 22).

3 hours a week.

32y. **Readings in Latin philosophical literature:** Special attention is given to the writings of Cajetan de Vio, John of Saint Thomas, Sylvester of Ferrari, Goudin and Billuart. Consideration is also given to Descartes, Spinoza, and other modern philosophers who wrote in Latin. (Prerequisite: Latin 23).

1 hour a week (half course).

ECONOMICS AND POLITICAL SCIENCE

I. ECONOMICS

Officers of Instruction: Professor: W. G. Phillips, Ph.D. (Department Head); Associate Professor: Rev. F. L. Burns, C.S.B., Ph.D.; Assistant Professors: W. L. White, M.A.; V. C. Chrypinski, Ph.D.; Lecturer: C. D. Goodwin, Ph.D.

Students who wish to major in Economics will take the following sequence of courses:

In First Year: Economics 15 or 19.

In Second Year: Economics 21, 23.

In Third Year: Two Economics courses.

Students may arrange a combined major between Economics and Political Science with the permission of the department.

For Honours Economics and Political Science, see p. 69.

✓ 15. **Principles of Economics:** Basic principles of economic activity, factors affecting national income, prices, income distribution, and international trade.

2 hours a week.

✓ 19. **Principles of Economics:** This course follows the same general lines as Economics 15, but takes the student to a more advanced level of economic theory and analysis. It is recommended that students intending to enter Honours Economics and Political Science take this course in first year.

3 hours a week.

✓ 21. **Economic Theory:** An intensive course in price theory, and some aspects of distribution theory.

3 hours a week.

✓ 23. **Money and Banking:** Theory and policy in financing economic activity.

3 hours a week.

✓ 27a. **Economic History of Europe.**

3 hours a week, first semester (half course).

✓ 27b. **Economic History of the United States.**

3 hours a week, second semester (half course).

✓ 31. **Public Finance:** Theory and policy in government finance.

3 hours a week.

34. **Introduction to Statistics:** The use of statistical methods in Economics.

2 lectures, 2 laboratory hours a week.

✓ 36. **Economics of Labour:** Problems and policies affecting labour in North America.

3 hours a week.

Honours Courses

219. **Geography of World Resources and Industries:** Trade routes and centres; the world's physical resources, their nature, utilization and transportation.

3 hours a week.

✓ 221. **Pricing Theory and Policy:** An intermediate course in demand, supply and the pricing process under the various forms of market organization; the nature of profits and the profit-making process; productivity and costs of production; special problems in the theory of monopoly and imperfect competition, with their implications for public policy. An introduction to three-variable analysis is made at the end of the course.

3 hours a week.

✓ 223. **Money and Banking:** Monetary systems; characteristics and functions of money; banking organization and current monetary problems in Canada, the United States and England. The development of contemporary monetary theories and policies.

3 hours a week.

✓ 227a. **Economic History of Europe.**

3 hours a week, first semester (half course).

✓ 227b. **Economic History of the United States.**

3 hours a week, second semester (half course).

✓ 301. **International Trade and Finance:** Theory and empirical foundations of international trade; volume and pattern of trade and capital movements; balance of payments and international monetary relations; balance of payments adjustment process and the foreign exchanges; artificial obstacles to international trade—exchange control, tariffs, quotas; current international economic problems; various regional and world-wide institutions for promotion of currency convertibility and trade; economic development of under-developed areas.

3 hours a week.

✓ 336. **Economics of Labour:** The development and present structure of the labour movement in North America, legislation affecting the status and activities of organized labour; wage and employment problems; methods of dealing with labour disputes; policies and practices in collective bargaining.

3 hours a week.

✓ 338. **Economic History and Current Economic Policies of Canada:** The economic development of Canada from the beginning of settlement to the present day. Current problems and policies in the Canadian economy, including agriculture, transportation, resources development and anti-trust policy.

3 hours a week.

353. **Corporation Finance and Investments:** (a) The promotion and financing of business enterprises, financial controls and dividend policies. (b) The principles of investments, individual and institutional; social importance.

3 hours a week.

✓ 400. **History of Economic Thought:** (a) English classical economics and its predecessors, and the reactions against classicism on the continent. (b) The development of neo-classical and equilibrium economics.

2 hours a week.

402. **Government and Economic Life:** The nature and extent of state activity in the economic life of Canada, England, Australia, New Zealand and the United States. An examination is made of the regulatory functions of the government and direct economic intervention by government in the Commission, corporate and other forms.

2 hours a week.

406a. **Business Cycle Theory and Policy:** A study of the history, the nature and the causes of economic fluctuations, and remedial measures.

2 hours a week, one semester (half course).

410. **Modern Economic Theory (non-Monetary):** An intensive course in selected current theories of value, production and distribution, under conditions of pure and monopolistic competition.

2 hours a week.

✓ 431. **Public Finance:** The principles and problems of public finance with emphasis on the use of government finances as a stabilizing device; taxation problems, and the economics of the public debt. The second semester includes an intensive study of problems of public finance in Canada, particularly dominion-provincial fiscal relations.

2 hours a week.

434. **Statistical Methods:** The application of statistical methods to Economics; graphical methods and tabulation; frequency distributions; measures of central tendency and deviation; probability; the normal curve; correlation; reliability and validity; times series; index numbers.

2 lectures, 2 laboratory hours a week.

II. POLITICAL SCIENCE

Political Science Major: Pol. Sc. 12, 20, 31, and two others.

- ✓ 12. **Introduction to Political Science.**
3 hours a week.
- ✓ 20. **Government of Canada:** Federal, provincial and local government.
2 hours a week.
- ✓ 31. **Comparative European Governments:** (a) Western European governments exclusive of the United Kingdom; (b) Government of Soviet Russia and the satellite regimes.
3 hours a week.

Honours Courses

- ✓ 212. **Elements of Political Science:** (a) The state, its origin and activities; evolution, structure and function of democratic government and institutions, particularly in Canada, the United Kingdom, the United States. (b) Political ideas of Capitalism, Communism, Socialism and Fascism, and the relationship of each to modern democracy.
3 hours a week.
- ✓ 220. **Canadian Government and Politics:** General character of the Canadian Government and constitutional system. Structure, powers and functions of the executive, legislative and judicial branches at the national, provincial and local levels. Problems of federalism; franchise, elections, political parties, pressure groups, public opinion.
3 hours a week.
- ✓ 331. **Major Foreign Governments:** An introductory survey of the governments and politics of the United States, Great Britain, France, Germany, Italy and the Soviet Union. Consideration will be given to the problems of European unification.
3 hours a week.
- ✓ 334. **The Commonwealth of Nations:** A study of the Commonwealth of Nations as an organization of autonomous nations, and a survey of the governmental structures and politics of its components.
3 hours a week.
- ✓ 443. **International Politics:** A study of international politics and organizations; an examination of nationalism, imperialism and other fundamental and persistent forces in world politics.
2 hours a week.
- ✓ 452. **History of Political Thought:** (a) The development of political theory from the classical period to the end of the 18th century. (b) A critical examination of modern political theories.
2 hours a week.

ENGINEERING

Officers of Instruction: Professors: F. A. DeMarco, M.A.Sc., Ph.D. (Acting Head); Maurice Adelman, M.A.Sc., Ph.D.; G. B. Walker, M.A., Ph.D. Associate Professors: R. G. Billingham, M.A.Sc.; W. G. Colborne, M.Sc.; T. S. Wu, M.S., Ph.D. Assistant Professor: A. W. Gnyp, M.A.Sc., Ph.D. Lecturers: D. D. Duquette, B.A., M.S.; H. R. Fletcher, M.A.Sc.; Rev. R. Howell, C.S.B., B.Sc., M.A.Sc. Instructors: J. P. Hartt, B.A.Sc.; C. H. Montrose, B.Sc. (part-time).

For Bachelor of Applied Science program, see p. 91 ff.

Note: All subjects numbered in the 400's are subject to revision, since the fourth year will not be offered until 1960-61.

Engineering Sciences

E.S. 100. Engineering Mechanics I: An introduction course dealing with the principles of statics and dynamics such as composition and resolution of forces; equilibrium of force systems; kinematics and kinetics of particles and rigid bodies. A variety of applications to engineering problems studied.

2 lectures a week.

E.S. 200. Engineering Mechanics II: A continuation of Engineering Mechanics I, in which full use is made of the students' training in calculus; kinematics and kinetics of rigid bodies; work and energy; impulse and momentum.

2 lectures per week.

E.S. 201. Strength of Materials: Study of stress-strain relations, elastic and inelastic behavior of materials; tension and compression members, members subject to bending, torsion, combined stresses, repeated loads and dynamic loads. Laboratory includes operations and calibration of testing machines; use of various types of strain-measuring instruments; standard procedures in conduct of tension, compression, flexure, torsion, impact, and hardness tests.

2 lectures a week; 3 laboratory hours alternate weeks.

E.S. 201x. Same as 201, but without laboratory.

2 lectures a week.

E.S. 202a. Engineering Materials: The fundamental principles of the structure of matter as applied to engineering materials such as metals and alloys, resins and protective coatings, plastics, cement and concrete. Boiler water treatment. Corrosion.

3 lectures a week, first semester (half course).

E.S. 203b. Principles of Metallurgy: An introductory study of the structure and properties of pure metals and binary alloys, phase equilibria, reactions in the solid state, influence of composition, mechanical and heat treatment on their structure and properties. Corrosion.

2 lectures a week, second semester (half course).

E.S. 300. Fluid Mechanics: Fluid properties, statics, buoyancy, continuity, momentum and energy relations, dimensional analysis, dimensionless groupings, flow of incompressible fluids, resistance of immersed bodies, compressible flow.

2 lectures a week; 3 laboratory hours alternate weeks.

E.S. 301y. Engineering Metallurgy: Application of the principles of physical metallurgy to the consideration of the constitution, microstructure, heat treatment, properties and uses of ferrous and non-ferrous metals and alloys.

Laboratory illustrates some of the principles presented in the lectures and includes preparation and examination of metallurgical specimens, macroscopy and microscopy, photomicrography.

1 lecture a week; 3 laboratory hours alternate weeks (half course).

E.S. 302a. Engineering Thermodynamics: First and second law applications, tabulated properties, process calculations for stationary systems, vapour cycles, gas cycles, flow through nozzles, air compression, refrigeration.

2 lectures a week, first semester.

3 laboratory hours alternate weeks, first semester (half course).

E.S. 302b. Introduction to Heat Transfer: Modes of heat transfer, conduction transfer, radiation, forced and natural convection, conduction in bodies with heat sources, applications.

2 lectures a week, second semester.

3 laboratory hours alternate weeks, second semester (half course).

E.S. 303. Engineering Thermodynamics: Applications of first and second laws of thermodynamics to processes and cycles, properties of pure substances, use of tables and charts, vapour and gas cycles, flow through nozzles and orifices, compression of gases, details of compressors, refrigeration cycles.

2 lectures a week; 3 laboratory hours alternate weeks.

E.S. 304. Principles of Heat Transfer: Energy transfer, Fourier Equation, steady and transient state conduction, forced and natural convection, transfer inside and outside of tubes, radiation, heat exchangers with solution of practical problems.

2 lectures a week; 3 laboratory hours alternate weeks.

E.S. 305. Physical Metallurgy I: A fundamental study of crystallography, phase equilibria, solid solutions, eutectics, intermetallic compounds, order-disorder transitions and solid state diffusion. Introduction to X-ray analysis.

2 hours a week; 3 laboratory hours alternate weeks.

E.S. 400. Physical Metallurgy II: Diffusion, nucleation and growth, age hardening, eutectoid decomposition, martensitic reactions, dislocation theory, phenomena of recovery, recrystallization and grain growth. (Prerequisite: E.S. 305).

2 lectures, 6 laboratory hours a week.

General Engineering

G.E. 100. Engineering Graphics: First semester—lettering; use of instruments; applied geometry; orthographic projections; dimensioning; sectional views; threads and fasteners; tolerances; working drawings; reproduction of drawings; graphs and charts; simple nomographs. Second semester—orthographic projection; auxiliary and oblique views; graphical solutions of problems involving points, lines and planes; intersections of solids and development of surfaces.

1 lecture a week;

5 laboratory hours a week first semester, 3 laboratory hours a week, second semester.

G.E. 101. Orientation: Instruction in library science; use of the slide rule.

G.E. 102. Practical Experience: Students in all branches of engineering are required to have, before graduation, practical work of a nature acceptable to the department concerned. Work done prior to admission to the University may be accepted.

G.E. 400a. Engineering Profession and Law: The development of the engineering profession; professional engineering associations, societies, and services; the status of the engineer in the community; professional ethics. The law and the engineer; contract law and specifications; preparation of specifications and engineering contract documents; companies, partnerships, mechanics' liens, agency, patents. Duties of employees to employers, the duties of liabilities of engineers.

2 lectures a week, one semester (half course).

G.E. 401b. Engineering Economics and Business: A course dealing with the factors governing plant location, market research, research and development, production and quality control; product analysis and planning of manufacturing processes; analyses from an economic viewpoint of process choice.

2 lectures a week, one semester (half course).

G.E. 402b. Nuclear Engineering: Reactor theory, reactor types, fuel elements, moderators, shielding, radiation effects on materials, special auxiliaries, isotope applications in engineering.

2 lectures a week, second semester (half course).

G.E. 403b. Thesis and Seminar: Detailed literature investigation of a project in engineering, the various details of which are to be discussed individually in seminar. The seminar discussions are to be compiled by each student in the form of a written thesis to be submitted at the end of the fourth year.

1 lecture, 2 laboratory hours a week, one semester (half course).

Chemical Engineering

Ch.E. 200. Elementary Process Calculations: Gas calculations, vapour pressure and heat capacity. Stoichiometry, material and energy balances in chemical processes. Introduction to graphical methods.

2 lectures, 2 laboratory hours a week, first semester;
1 lecture, 2 laboratory hours a week, second semester.

Ch.E. 300. Chemical Engineering Thermodynamics: The applications of thermodynamic principles to chemical engineering practice.

2 lectures a week.

Ch.E. 301. Unit Operations: The theory and practice of energy and mass transfer are considered in the study of centrifugation, filtration, heat transfer, screening, size reduction and solids handling. Drying and evaporation.

3 lectures, 3 laboratory hours a week.

Ch.E. 302. Solid State for Chemical Engineers: The structure of solids. Atomic and molecular structure. Crystallography, thermodynamic stability of solids. Metallic solids. Ionic solids. Molecular and covalent solids. Deformation. Dislocations.

2 lectures a week.

Ch.E. 400. Intermediate Chemical Engineering Thermodynamics and Kinetics: Application of thermodynamics and kinetics to problems in the field of chemical engineering.

2 lectures a week.

Ch.E. 401. Instrumentation: Use of instruments in automatic control of processes.

1 lecture, 2 laboratory hours a week, first semester;
1 lecture, 3 laboratory hours a week, second semester.

Ch.E. 402. Plant Design: Design of pilot plant and larger equipment.

1 lecture, 6 laboratory hours a week.

Ch.E. 403. Mass and Energy Transfer: Diffusion processes, distillation, evaporation, drying, heat transfer, chemical engineering mathematics.

2 lectures, 3 laboratory hours a week.

Civil Engineering

C.E. 200a. Elementary Surveying: Surveying as applied to Engineering; errors, accuracy and precision; determining distance; angular measurement; differential leveling; adjustment of instruments; traverses; topographic surveying; computations; land surveying; earth work and hydrographic surveying. The field work is designed to implement the above.

3 lectures, 3 laboratory hours a week, first semester.

C.E. 201b. Higher Surveying: Control surveys; triangulation and precise leveling; precise methods of adjusting data; horizontal and vertical curves; field astronomy.

The field work and problem periods are designed to supplement the lecture course.

2 lectures, 3 laboratory hours a week, second semester (half course).

C.E. 202b. Graphics and Survey Problems: Graphs, charts and nomographs; graphical calculus; graphs for forecasting empirical equations; map projections; graphics as applied to calculating cut and fill from topographic maps, and graphic statics.

3 laboratory hours a week, second semester (half course).

C.E. 300. Reinforced Concrete: Properties of materials; stress analysis and design of reinforced concrete beams, slabs and columns; combined bending and axial load; time and temperature effects on concrete; ultimate strength analysis; an introduction to prestressed concrete. Laboratory includes determination of physical properties of concrete and its component materials; design of concrete mixes for specified strength and durability; tensile, compressive, and flexure strength of plain and reinforced concrete.

2 lectures a week; 3 laboratory hours first semester.

C.E. 301. Structural Theory and Design I: Stability and determinacy of structures; analysis of statically determinate beams, frames and trusses; influence lines for beams, girders and trusses; maximum stress criteria; highway and railway loading. Laboratory includes design of members in tension, compression, and bending; riveted and welded connections and roof trusses.

2 lectures, 3 laboratory hours a week.

C.E. 301a. First semester of C.E. 301.

C.E. 302. Transportation Engineering: Engineering aspects of transportation with emphasis on highways and airports; principles of design; location; subgrade; pavement; drainage; economics.

2 lectures a week.

C.E. 303. Soil Mechanics: Classification; physical and mechanical characteristics of soil; soil moisture; seepage and frost action; theories of soil resistance and soil consolidation; practical applications to construction. Laboratory includes analysis of soil properties and soil strength.

2 lectures, 3 laboratory hours alternate weeks.

C.E. 304b. **Hydrology:** The study of precipitation; storage of water; measurement of stream discharge; continuous discharge records; floods and their prediction; the unit hydrograph; a graphical approach to statistics as applied to hydrological records.

2 lectures a week, second semester (half course).

C.E. 305a. **Photogrammetry:** Geometric characteristics of aerial photographs; principles of stereoscopy; radial plot methods; mosaics; accuracy to be expected from the latest type stereoplotters; applications of photogrammetry to route surveying.

2 lectures a week, first semester (half course).

C.E. 306. **Survey Camp:** A field course covering secondary triangulation; precise base line measurement; plane table topography; cross sectioning and earth work; and observations for time and azimuth.

2 or 3 weeks—to be arranged.

C.E. 400y. **Construction and Contracting:** Construction planning, equipment and methods; estimating and bidding; contracts and specifications.

1 lecture a week (half course).

C.E. 401b. **Foundations and Masonry Structures:** Study of sub-soil conditions and earth pressure theory; design of retaining walls, footings, pile foundations, and bridge piers and abutments; gravity masonry dams.

3 lectures a week, one semester (half course).

C.E. 402. **Theory of Structures II:** Analysis of statically indeterminate structures; moment area theorems; slope deflection equations, moment of distribution, virtual work; energy method; applications to continuous beams, frames, and indeterminate trussed structures.

2 lectures a week.

C.E. 403. **Structural Design:** Design of buildings, bridges, and other structures of steel, timber, and reinforced concrete; computations and drafting.

6 laboratory hours a week.

C.E. 404a. **Municipal Engineering:** History of city planning; neighbourhood, community and urban region planning; land subdivision; housing; zoning; parks and playgrounds; public buildings.

3 lectures a week, one semester (half course).

C.E. 405. **Sanitary Engineering:** Design of water supply system, consumption, sources, collection, treatment, and distribution; principle of design and maintenance of sanitary and storm sewer systems; fundamentals of design of sewage treatment plants.

Laboratory includes chemical and bacteriological tests of water, sewage and industrial waste.

2 lectures, 3 laboratory hours a week.

Electrical Engineering

E.E. 200b. **Electrical Machines:** Theory and characteristics of D.C. and A.C. machinery.

2 lectures, 3 laboratory hours a week, second semester (half course).

E.E. 201. **Electrical Engineering Mathematics:** Vector algebra, determinants and matrices. The complex variable. Fourier series.

2 lectures, 2 laboratory hours a week.

E.E. 202a. **Electrical Fundamentals:** Basic account of electric circuits including 3-phase. Magnetisation and the magnetic circuit.

2 lectures, 3 laboratory hours a week, first semester (half course).

E.E. 203b. **Electrical Machines I:** D.C. machines and transformers.

2 lectures, 3 laboratory hours a week, second semester (half course).

E.E. 300. **Electromagnetic Theory:** Electrostatics, magnetostatics and electromagnetism leading to Maxwell's Equations.

2 lectures, 3 laboratory hours a week, first semester.

2 lectures a week, second semester.

E.E. 301. **Electric Circuits:** Network theory, amplifiers, oscillators and pulsing networks.

2 lectures a week; 3 laboratory hours a week, second semester.

E.E. 301x. Same as 301, but without laboratory.

2 lectures a week.

E.E. 302b. **Electrical Machines II:** A.C. machines, induction motor and generator, synchronous machines.

2 lectures, 3 laboratory hours a week, second semester (half course).

E.E. 303. **Electronics:** Fundamentals of vacuum tubes, gas discharge tubes, cathode ray tubes and solid state devices.

2 lectures, 2 laboratory hours a week, first semester.

2 lectures a week, second semester.

E.E. 304a. **Electrical Measurements:** Instruments, bridges, measurement standards.

2 lectures, 3 laboratory hours a week, first semester (half course).

E.E. 400. Electrical Machines II: The theory and characteristics of alternating current and converting machines, including the alternator, transformer, synchronous motor, single and polyphase induction motors; synchronous converter, rectifiers, commutator motors.

2 lectures, 3 laboratory hours a week.

E.E. 401. Circuit Analysis: A course to illustrate analytical methods used to derive general network theorems and to discuss general network properties. Consideration is given also to electric wave filters, power networks, resonators, and radiators.

2 lectures, 3 laboratory hours a week.

E.E. 402. Applied Electronics: The theory and applications of vacuum tubes in amplifiers, oscillators, modulators, detectors, and related equipment used in communications, instrumentation and control.

2 lectures, 3 laboratory hours a week, first semester;

2 lectures a week, second semester.

E.E. 403. Power Transmission: Fundamentals of transmission and distribution systems; the economics, design, and equipment of electric power generating plants and substations; circuit breaker operation; relays for control and protection; short circuit calculations.

2 lectures, 2 laboratory hours a week.

E.E. 404. Communications: The basic theory and practice of amplification, detection, modulation, demodulation and frequency conversion; noise in communication circuits; design theory and calculations for class B and class C power amplifiers; phasing and matching networks.

1 lecture, 3 laboratory hours a week.

Mechanical Engineering

M.E. 200. Mechanics of Machinery: Linkages, governors, cams, and belts, motion transmitted by toothed gearing, gear trains, velocities in machines, relative velocity and instantaneous centre analysis, accelerations in machines with graphical solutions, static and inertia forces.

2 lectures, 3 laboratory hours a week, first semester.

1 lecture, 3 laboratory hours a week, second semester.

M.E. 201y. Mechanical Drawing: Advanced detailing with assembly drawings of problems detailed, dimensioning of machine drawings, conventional practices, technical sketching, pictorial representation, piping drawings, use of welding symbols, tolerances and fits.

1 lecture, 3 laboratory hours a week, first semester.

3 laboratory hours a week, second semester.

M.E. 300. Machine Design: Design of elementary machine members, stresses and stress concentrations, joints, thin and thick walled cylinders, fatigue, basic linkages and trains of mechanism, selection of bearings, couplings, keys, belt and chain drives, gearing, bolts and screws, theory of lubrication.

2 lectures a week, first semester.

1 lecture, 2 laboratory hours a week, second semester.

M.E. 301. Machine Design I: Crank effort, torque diagrams, balancing, governors, vibrations. Design of machine members: bolts, screws, joints, thin-walled vessels, shafts, couplings, clutches, brake belts, pulleys, chain drive, spur gearing, bearings and lubrication.

2 lectures, 3 laboratory hours a week, first semester.

3 lectures, 3 laboratory hours a week, second semester.

M.E. 400. Advanced Fluid Flow and Machinery: Dynamics of non-viscous fluids, boundary layers, fluid machinery—dynamics, fans, pumps, compressors, fluid couplings and torque converters, hydraulic turbines, fluid vibrations.

2 lectures, 3 laboratory hours a week, first semester.

2 lectures a week, second semester.

M.E. 401. Machine Design II: Theories of failure, working stresses, stress concentrations, bevel work and helical gears, planetary gearing, springs and flat plates, curved beams, thick cylinders, fly-wheels, force and shrink fit, hydraulic circuits.

2 lectures, 3 laboratory hours a week.

M.E. 402. Heat Power and Controls: Combustion theory and fuels, general principles of steam power plant design and equipment, reheat, regenerative and binary vapour cycles, power from nuclear reactors, control theory and applications.

2 lectures a week, first semester.

2 lectures, 3 laboratory hours a week, second semester.

M.E. 403. Engines and Turbine Principles: Theory and analysis of internal combustion engines, fuels, carburetion, combustion chambers, injectors, theories of combustion and detonation. Steam and gas turbine principles, blade design, efficiencies, turbine and compressor matching, combustion chambers.

2 lectures, 3 laboratory hours a week, first semester.

3 lectures, 3 laboratory hours a week, second semester.

M.E. 404a. Heating and Air Conditioning: Requirements of air conditioning systems, comfort charts, humidity, air-water vapour mixtures, psychrometrics, design of air, water and steam systems, industrial ventilation.

2 lectures, 3 laboratory hours a week, first semester (half course).

ENGLISH

Officers of Instruction: Professor: Rev. C. P. Crowley, C.S.B., Ph.D. (Department Head). Associate Professor: Miss Mary Manley, Ph.D. Assistant Professors: Rev. K. J. Johnson, C.Ss.R., M.A.; Rev. E. C. Pappert, C.S.B., Ph.D.; J. F. Sullivan, Ph.D.; E. J. McNamara, M.A. Lecturers: Sr. John Thomas, S.N.J.M., M.A.; Rev. E. A. Coholan, C.Ss.R., B.A.; Rev. R. J. Madden, C.S.B., M.A.; H. F. Plante, M.A.; D. P. Kelly, M.A.

English Major: English 5, 15, 22, 39, and two others.

For Honours English and History, see p. 71; for Honours English Language and Literature, p. 70; for Honours English and Philosophy, p. 72; for graduate courses, p. 104.

- ✓ 5. **General Literature and Composition.**
4 hours a week.
- ✓ 11. **Communication Skills:** The methods of exposition as related to reports and business letters, with appropriate readings.
2 hours a week.
- ✓ 15. **General Literature and Composition:** A survey of English Literature, with emphasis on the great writers. Numerous essays and exercises will be required.
3 hours a week.
- ✓ 21. **Business English:** A study of the principles of expression and their application in business letters, business reports and other records. In addition, a survey of English literature. (Required for B.Comm. students).
3 hours a week.

No student will be registered in any of the following courses until he has successfully completed English 15.

- ✓ 22. **Literature of the Nineteenth Century.**
3 hours a week.
- ✓ 33y. **Creative Writing:** Limited to fifteen students. Those wishing to register in the course should submit manuscripts to the Department of English before September 1.
1 hour a week (half course).
- 34. **Comparative Literature.**
3 hours a week.
- ✓ 35. **Shakespeare:** Tragedies, Comedies and Histories. Shakespearean criticism.
3 hours a week.
- ✓ 36. **Modern British and American Drama.**
3 hours a week.
- ✓ 38. **American and Canadian Literature.** (English-Canadian only).
3 hours a week.
- ✓ 39. **Recent Literature in English.**
3 hours a week.

Honours Courses

Comprehensive examinations will be held at the end of the Fourth Year of all courses in English Honours.

- ✓ 236. **Modern British and American Drama.**
3 hours a week.
- ✓ 250. **Restoration and Eighteenth Century Literature (1662 to 1780).**
2 hours a week.
- 254. **Criticism, Scholarship and Bibliography:** A general introduction to English studies.
2 hours a week.
- ✓ 350. **Literature of the Romantic Revival (1780-1832).**
3 hours a week.
- 356. **English Drama to 1642:** With particular attention to the plays of Shakespeare.
3 hours a week.
- ✓ 357y. **The History of the English Language.**
1 hour a week (half course).
- ✓ 358. **American and Canadian Literature.** (English-Canadian only).
3 hours a week.
- ✓ 363y. **Old and Middle English Language and Literature:** The translation of Old English prose and poetry; grammar and syntax; history of literature from the beginnings to 1150.
2 hours a week (half course).
- 441y. **Creative Writing.**
1 hour a week (half course).
- 450. **Renaissance Literature, Non-Dramatic (1500-1660).**
3 hours a week.
- ✓ 459. **Recent Literature in English.**
3 hours a week.
- ✓ 460. **Literature of the Victorian Period (1832-1900).**
3 hours a week.
- 463. **Advanced Middle English Language and Literature:** Chaucer and Langland; the study of representative prose and poetry. 1150-1400; history of literature.
2 hours a week.
- 470y. **English Tutorial:** Studies in English language and literature, directed by members of the department.
1 hour a week.

FINE ARTS

Instructor: Ivan Galantic, Dipl. di prof. d'Arte.

16. A survey of Pre-historic, Pre-hellenic, Hellenic, Roman and Early Christian Art.

3 hours a week.

23a. **Principles of Art:** Fundamentals of line and colour. This course is required for Honours Household Science students, and together with Household Science 223b is considered a half course.

1 hour a week, first semester.

✓ 26. A survey of Romanesque, Gothic and Renaissance Art.

3 hours a week.

36. A survey of Italian, Spanish, French, Dutch, German and English Art from the sixteenth to the nineteenth centuries; modern art; the art of Canada: aboriginal, French-Canadian, English-Canadian.

3 hours a week.

FRENCH

(See p. 156.)

GEOGRAPHY

Lecturer: P. E. Vandall, B.A.

Geography Major: Geography 10, 19, 24, 34, and one other.

For combined major: Geography 10, 19, and either 24 or 34.

The following courses are not necessarily offered all in the same year.

10. **Elements of Geography:** The earth as the home of man; the elements of the physical and cultural landscape with special reference to their world patterns.

2 lectures and 2 hours practical work a week.

19. **Geography of World Resources and Industries:** Trade routes and centres; the world's physical resources; their nature, utilization, and transportation.

3 hours a week.

21. **Advanced Physical and Cultural Geography:** Studies of the environmental factors and their inter-relationships with special reference to Southwestern Ontario. (Prerequisite: Geography 10).

2 lectures and 2 hours practical work a week.

24. **World Regional Geography.** (Prerequisites: Geography 10, 19, or equivalent).
3 lectures a week.

31. **Problems in Geography:** A survey of historical geography, political geography, and the philosophical foundations of modern geographical thought. (Prerequisites: Any two of Geography 10, 19, 21, 24).
3 hours a week.

34. **Geography of Canada:** The natural wealth of Canada and its conservation. (Prerequisites: Geography 10, 19, or equivalent).
3 hours a week.

Honours Courses

324. **World Regional Geography:** A systematic survey of the major natural and political regions of the world. (Prerequisites: Geography 10, 19, or equivalent).
3 lectures a week.

334. **Geography of Canada:** The natural wealth of Canada and its conservation. The geographic bases of human occupancy in Canada; conservation of natural resources. (Prerequisites: Geography 10, 19, or equivalent).
3 hours a week.

GEOLOGY

Lecturer: Rev. A. J. Weiler, C.S.B., B.A.

✓ 10. **Introductory Course in Geology:** Minerals and rocks; geological processes and their results; structure of the earth; practical application of geology; fossils and their use; an outline of the earth's history.

2 lectures and 2 laboratory hours a week. Field trips.

✓ 10e. Contents same as Geology 10.
2 lectures a week, both semesters; 2 laboratory hours a week, one semester.

GERMAN

(See p. 157.)

HISTORY

Officers of Instruction: Professor: Rev. D. J. Mulvihill, C.S.B., Ph.D. (Department Head); Associate Professor: Most Rev. C. L. Nelligan, D.D., B.A.; Assistant Professors: Rev. F. J. Boland, C.S.B., Ph.D.; Rev. J. J. McCormick, C.Ss.R., M.A.; C. M. J. F. Swan, Ph.D.

History Major: History 10, 36, and 3 additional courses.

For Honours History (Economics Option), see p. 74; for Honours English and History, p. 71; for Honours History (Philosophy Option), p. 74; for graduate courses, p. 93.

4. **History of the Americas:** A study of the rise and growth of the various American nations and their relations with one another, against their respective geographical, economic and cultural backgrounds.

3 hours a week.

✓ 10. **Mediaeval, Renaissance and Reformation History.**

3 hours a week.

11. **The Development of Christian Civilization:** A survey of the development of Christian civilization and thought from the time of Christ to the present, with special attention to the role of the Church. 2 hours a week.

23a. **The Development of Self-Government in the British Empire-Commonwealth.**

3 hours a week, one semester (half course).

✓ 24. **History of England:** A lecture and reading course on the political and cultural development of England from the Roman Conquest to 1837.

2 hours a week.

✓ 27. **Ancient Civilizations:** The Near East, Greece and Rome. 3 hours a week, lectures and seminars.

✓ 31. **History of Canada:** A survey from the beginning of the French Regime to the present.

3 hours a week.

✓ 34. **History of the United States.**

2 hours a week.

✓ 36. **Modern History (1555-1933).**

3 hours a week.

✓ 38. **Diplomatic History of the United States:** The diplomatic aspect of the War for Independence; American international relations after 1789; occupation of the West; international aspects of the Civil War; American imperialism; Spanish-American War; First World War; League of Nations; Caribbean and Pacific problems since 1920; foreign policy since 1933; Second World War; post-war problems and the United Nations.

2 lectures, 1 seminar.

- ✓ 47. **History of Russia: Origins to the Soviet Regime.**
3 hours a week.
- 49. **Intellectual History of Russia.**
3 hours a week.

Honours Courses

- ✓ 236. **Modern History: 1555-1933.**
3 hours a week, lectures and seminars.
- ✓ 257. **Ancient Civilizations: Prehistoric culture from the Paleolithic Age to the dawn of civilization. The political, social, economic and cultural history of the Near East and Egypt. The origin, development, achievement and decay of the Greek city-state from the time of Homer to Alexander the Great, with particular emphasis on Greek culture and Greek contributions to modern civilization. The political and social development of the Roman state from its origins to the Augustan age with particular attention paid to the collapse of the Republic and the Principate.**
3 hours a week.
- ✓ 331. **History of Canada: A survey from the beginning of the French Regime to the present.**
3 lectures and a seminar a week.
- 333a. **The Development of Self-Government in the British Empire-Commonwealth:**
3 hours a week, lectures and seminars; one semester (half course).
- ✓ 345. **History of Latin America: The colonial and republican periods; the cultural, institutional and political development of the Latin countries of the western hemisphere.**
3 hours a week.
- 347. **History of Russia: Prehistoric origins to the present. (i) The political and economic growth, cultural and religious factors, the growth of foreign relations and the expansion in Asia until the 19th century. (ii) The history of Russia from the beginning of the 19th century to the establishment and consolidation of the Soviet regime, with special emphasis on the development of the revolutionary movement in Russia.**
3 hours a week.
- 354b. **History of Latin America. (Prerequisite: History 236).**
3 hours a week, lectures and seminars; one semester (half course).
- 356a. **International Relations and World Problems: 1918-present. (Prerequisite: History 236).**
3 hours a week, lectures and seminars; one semester (half course).

358. **Canada, Autonomous State, 1837-1957.** Evolution of Nationhood from acquisition of responsible government to the present. Miracle of political union (1844-1867); national policy; population growth and its problems; Laurier, Borden, King; Commonwealth and Nationhood; sectionalism and the Canadian nation; Liberal government and the external and internal crisis since 1930; autonomous state and its consequences; Canada in a two-power world; NATO.

3 hours a week (2 lectures, 1 seminar).

✓ 361a. **Canadian-American Relations, 1774-1957:** American Revolution and after; boundary and fishery disputes; Civil War; Confederation; formation of North Atlantic Triangle; development of Canadian autonomy; formation of economic entente involving Canada and United States in 1930's; problems of post War II reconstruction; Canadian-American factors in security; joint economic interests; modern cultural and social patterns.

3 hours a week (2 lectures, 1 seminar); one semester (half course).

✓ 361b. **Canadian Political Tradition, 1837-1957:** Development of political thought and political parties in Canada; racial cleavages and party groupings 1849-1867; party organization after 1867; Macdonald conservatism and national policy; outbreak of regional discontent; Laurier, Borden, King and Canadian Nationalism; internal crises after 1930—Provincialism, minor parties, new political thought, decline of Federal leadership; completion of Canadian autonomy with resultant world responsibilities.

3 hours a week (2 lectures, 1 seminar); one semester (half course).

444. **History of the United States:** The colonial period, the revolution, making of the constitution, westward development, the slavery struggle, the Civil War, reconstruction and later political history to the present day; the character of federal and state governments.

3 hours a week, lectures and seminars.

449. **Intellectual History of Russia:** The Byzantine tradition; 18th and 19th century Russian thought; intellectual history of the Soviet era.

3 hours a week.

✓ 452. **History of European Society and Institutions:** In the first term Continental Europe to 1648 will be studied. In the second term the course deals with the social and constitutional history of England to 1660 and emphasizes the use of documents.

3 hours a week, lectures and seminars.

✓ 455. **British Political Parties:** The rise of the Tory, Whig, Conservative, Liberal, Irish Parliamentary, Unionist and Labour Parties.

3 hours a week, lectures and seminars.

HOUSEHOLD SCIENCE

Officers of Instruction: Lecturers: Sr. Michael Mary, S.N.J.M., B.A.; additional lecturer to be appointed.

Household Science Major: H.Sc. 12a, 14b, 20, 21, 32, 35.

For Honours Household Science, see p. 78.

✓ 12a. **Basic Foods:** Elementary principles of food selection and preparation.

2 lectures, 3 laboratory hours a week, one semester (half course).

✓ 14b. **Textiles:** An introductory course dealing with recognition and selection of textiles.

3 hours a week, one semester (half course).

✓ 20. **Clothing:** Clothing construction.

Lectures and laboratory, 4 hours a week.

✓ 21. **Nutrition:** Normal requirements of body, diet, food, nutrients, deficiencies. (Prerequisite: Zoology 13a).

2 lectures a week for the year; 2 laboratory hours a week; one semester.

✓ 32. **Foods:** The principles of food cookery and preparation.

2 lectures a week for the year; 2 laboratory hours a week; one semester.

✓ 35. **Household Administration:** A study of general principles of home construction, choice of sites, house designs, cost of dwelling, selection of home equipment and planning the work in the home.

2 hours a week.

Honours Courses

✓ 220b. **Clothing I:** Laboratory practice in fundamental techniques of planning, cutting, fitting and construction of garments.

2 lectures, 3 laboratory hours a week, one semester (half course).

✓ 221b. **Principles of Nutrition:** A study of the fundamental principles of human nutrition; the optimum diet; food nutrients and their function.

3 lectures a week, one semester (half course).

223b. **Applied Art:** Modern handicrafts suitable for use in home and school. (Prerequisite: Art 23a).

2 lectures a week, one semester (half course).

224a. **Textiles:** The structure of textile fibers related to physical properties and chemical reactions; identifying fabrics; the finishing of textile fabrics.

3 lectures a week, one semester (half course).

✓ 235. **Household Administration:** A study of general principles of home construction; choice of sites, house designs, cost of dwelling, selection of home equipment; planning the work in the home.

2 lectures a week.

320b. **Clothing II:** The use of man-made fibres; difficult materials; simple modifications of commercial patterns.

3 laboratory hours a week, one semester (half course).

321a. **Advanced Nutrition:** Nutritional needs during infancy; the pre-school child; the adolescent. A study of the functions of nutrition in the prevention and cure of disease.

2 lectures, 2 laboratory hours a week, one semester (half course).

322. **Foods:** Composition and nutritive value of foods; food preparation and demonstration.

2 lectures, 3 laboratory hours a week.

323b. **Interior Decoration:** Elements of interior decoration and design.

2 lectures a week, one semester (half course).

327b. **Home Nursing and First Aid:** Care of the sick; emergency treatment; bandaging, symptoms and isolation of disease.

2 lectures a week, one semester (half course).

420y. **Tailoring:** A remake garment consisting of a child's coat or jacket; the making of a tailored or dressmaker type of suit.

3 laboratory hours a week (half course).

421b. **Nutrition:** Seminar reports on recent findings in nutrition.

3 hours a week, one semester (half course).

423b. **Costume Design:** Art of costume and personal appearance; history of costume, pattern designing; care of fabrics.

3 laboratory hours a week, one semester (half course).

428. **Meal Planning and Table Service:** A course including the fundamentals of meal planning and table service; food budgeting for incomes of different levels; food purchasing for the home.

2 lectures, 3 laboratory hours a week.

432. **Experimental Cookery:** A course dealing with the chemical and physical aspects of food preparation.

2 lectures, 2 laboratory hours a week.

435b. **Economics of the Household:** Marketing and consumer education; family income; budgeting.

2 lectures a week, one semester (half course).

442. **Quantity Cooking:** A course designed to give students practical experience in planning and serving food for dining halls and tea rooms, cafeterias. Financing and management of such projects is stressed.

3 lectures a week.

LIBRARY SCIENCE

1. **Use of Books and Libraries:** A general course designed to make all students familiar with the classification of the library; to enable them to read a book technically; to use the dictionary catalog and to interpret catalog cards; to acquaint them with the basic reference tools which they will need to use during their college years. Seven lectures. (Required of all students entering the University in Preliminary or First Year).

MATHEMATICS

Officers of Instruction: Associate Professor: Rev. D. T. Faught, C.S.B., M.A. (Department Head); Assistant Professors: L. L. Campbell, M.S., Ph.D.; H. A. Eliopoulos, M.Sc., Ph.D.; Rev. W. F. Nigh, C.S.B., M.A.; E. Zakon, Dr.jur.; Instructor: W. R. Gee, B.Sc.

Mathematics Major: Mathematics 1y, 2y, 3y, 11*, 16, 26, 30, 36, and one other; Chemistry 1a, 10; Physics 10, 26.

For Honours Mathematics, see p. 89; for graduate courses, p. 111.

*If this subject is completed in the first year, one other mathematical subject must be added to the program.

✓ 1y. **Algebra:** Functions and their graphs, quadratic equations, ratio and proportion, variation, progressions, interest and annuities, permutations and combinations, binomial theorem, mathematical induction, determinants, complex numbers, sequences.

2 hours a week (half course).

✓ 2y. **Analytic Geometry:** The point, straight line, circle, parabola, ellipse, hyperbola, translation and rotation of axes, general second-degree equations, polar coordinates, parametric equations, determinants of the third order.

2 hours a week (half course).

✓ 3y. **Plane Trigonometry:** Fundamental formulae, graphical representation of trigonometric functions, solution of trigonometric equations, solution of triangles, logarithms, complex numbers, De Moivre's theorem.

2 hours a week (half course).

✓ 4a. **Algebra and Plane Trigonometry:** Graphical representation of algebraic functions, solution of linear and quadratic equations, the progressions, ratio and proportion, the mathematics of investment, permutations and combinations, the binomial theorem, selected topics in trigonometry.

3 hours a week, one semester (half course).

✓ 4b. **Analytic Geometry and Plane Trigonometry:** A study of the point, straight line, circle, parabola, ellipse, and hyperbola; selected topics in Trigonometry.

3 hours a week, one semester (half course).

✓ 11. **Intermediate Algebra, Geometry and Trigonometry:** The conics, translation and rotation of axes, graphs of algebraic and transcendental functions, computations and errors, infinite series,

complex numbers, determinants, matrices, mathematics of investment, vectors, analytic geometry of three dimensions, solid geometry and mensuration, spherical trigonometry. (Prerequisite: Mathematics 1y, 2y, 3y, or Grade XIII Algebra, Geometry, Trigonometry).

2 lectures, 2 laboratory hours a week.

✓ 13b. **Mathematics of Investment:** Interest and discount, short-term installment buying, annuities-certain, bonds and bond prices, capitalized cost, life annuities, life insurance.

3 hours a week, one semester (half course).

✓ 16. **Differential and Integral Calculus:** Functions and limits, the derivative, differentiation of algebraic and transcendental functions, definite and indefinite integrals, partial differentiation, applications to problems involving lengths, areas, volumes, and problems in mechanics and physics. (Prerequisite: Mathematics 1y, 2y, 3y).

3 hours a week.

21a. **Theory of Equations:** Complex numbers, theorems on roots of polynomial equations, ruler and compass constructions, solution of the cubic and quartic, approximations to real roots, theory of determinants. (Prerequisite: Mathematics 16).

3 hours a week, one semester (half course).

21b. **History of Mathematics:** Fundamental ideas underlying elementary mathematics, the postulates of algebra and geometry with applications to Euclidean and non-Euclidean geometry, the meaning of mathematical proof, and historical development of mathematics. (Prerequisite: Mathematics 16).

3 hours a week, one semester (half course).

22. **Probability and Statistics:** Mutually exclusive events, total probability, conditional probability, compound probability, Bernoullian trials, basic concepts of elementary statistics, moments, dispersion, skewness, frequency distribution, expected values. (Prerequisite: Mathematics 16).

3 hours a week.

✓ 25. **Intermediate Calculus and Differential Equations:** Techniques of integration, partial differentiation, multiple integration, infinite series; elementary differential equations including first-order differential equations, higher-order differential equations with constant coefficients, series solutions of differential equations. This course is intended primarily for students who do not intend to take Mathematics 36. (Prerequisite: Mathematics 11).

3 hours a week.

✓ 26. **Intermediate Calculus and Differential Equations:** Techniques of integration, approximate integration, improper integrals,

indeterminate forms, infinite series, partial derivatives, multiple integrals, introduction to differential equations. This course should be taken by students who intend to take Mathematics 36.

3 hours a week.

✓ 30a. **Vector analysis:** Applications to geometry, vector calculus, differential geometry of curves, introduction to differential geometry of surfaces, differential operators.

3 hours a week, one semester (half course).

✓ 30b. **Theoretical Mechanics:** Kinetics, dynamics of a particle, dynamics of systems, least action principle, Lagrange's equations, introduction to electromagnetic theory. (Prerequisite: Mathematics 26).

3 hours a week, one semester (half course).

32a. **Synthetic Projective Geometry:** The principles of duality, correlation of geometric figures, harmonic ranges and harmonic pencils, the Pascal and Brianchon theorems, poles and polars, algebraic equations of curves of second order. (Prerequisite: Mathematics 26).

3 hours a week, one semester (half course).

✓ 32b. **Solid Analytical Geometry:** Elements of solid analytical geometry including lines and planes, quadrics, ruled surfaces, transformation to principal axes, and related topics. (Prerequisites: Mathematics 11, 16).

3 hours a week, one semester (half course).

33. **Methods of Applied Mathematics:** Selected topics in advanced calculus, vector analysis, Fourier series and integrals, methods of solution of the partial differential equations of heat conduction, potential, vibrations, introduction to the Laplace transformation and to the theory of functions of a complex variable, miscellaneous topics in applied mathematics. (Prerequisite: Mathematics 25 or Mathematics 36).

3 hours a week.

✓ 35. **Methods of Applied Mathematics:** Selected topics in advanced calculus, vector analysis, Fourier series and integrals, methods of solution of the partial differential equations of heat conduction, potential, vibrations. (Prerequisite: Mathematics 25 or Mathematics 26).

2 hours a week.

✓ 36. **Differential Equations and Advanced Calculus:** Linear differential equations with constant coefficients, differential equations of order higher than the first, differential equations in more than two variables, existence theorems, solution by series, partial differential equations of the first order, physical and geometrical applications, number systems. Dedekind cuts, sequences, functions, limits, con-

tinuity, derivatives, differentials, function of several variables, definite integrals, multiple integrals, line integrals, infinite series, power series and applications, improper integrals, Fourier series. (Prerequisite: Mathematics 26).

3 hours a week.

✓ 37. **Modern Algebra:** Integers, rational numbers and fields, real numbers, polynomials, complex numbers, group theory, vectors and vector spaces, matrices, linear groups, rank and determinants, algebra of classes, transfinite arithmetic, rings and ideals, number fields, Galois theory.

3 hours a week.

39a. **Modern Geometry:** Similarity, theorems of Ceva and Menelaus, harmonic points and lines, the triangle, coaxial circles, inversion, poles and polars, cross ratio, involution, construction with ruler and compass. (Prerequisite: Mathematics 26).

3 hours a week, one semester (half course).

✓ 39b. **Theory of Numbers:** An introductory course. Properties of integers, divisibility, congruences, Fermat's and Wilson's theorems, primitive roots, quadratic residue, diophantine equations. (Prerequisite: Mathematics 26).

3 hours a week, one semester (half course).

Honours Courses

✓ 227. **Introduction to Modern Algebra:** Algebraic structures, matrix calculus, vector spaces, linear systems, linear and quadratic forms, eigenvalue problems, linear groups and applications.

3 hours a week.

✓ 229. **Analytic Geometry:** Vectors, conic sections, diameters, asymptotes, principal directions, polar coordinates, parametric equations, envelopes, poles, polars, planes, lines and surfaces, three-dimensional space, quadric surfaces.

2 hours a week.

✓ 254. **Intermediate and Advanced Calculus:** Approximate integration, improper integrals, indeterminate forms, infinite series, partial derivatives, multiple integrals, line integrals, number systems, Dedekind cuts, sequences, functions, limits, continuity, Fourier series.

3 lectures, 1 laboratory hour a week.

✓ 300. **Principles of Analysis:** Mathematical analysis, real number system, elements of set theory, Riemann-Stieltjes integral, sequence and series of functions, Fourier integrals, Cauchy's Theorem and the residue calculus.

3 hours a week.

✓ 331. **Probability and Statistics:** Probability, statistical methods, frequency distribution of one variable, correlation and regression, testing goodness of fit, small sample distribution, statistical design in experiments, non-parametric methods.

3 hours a week.

✓ 341a. **Vector Analysis and Differential Geometry:** Vector operations in linear geometry, metric vector operations, infinitesimal vector operations, theory of curves and surfaces, Cartan calculus.

3 hours a week, one semester (half course).

✓ 341b. **Theoretical Mechanics:** Elementary principles, mechanics of a particle and system of particles, variational principles, Lagrange equations, two-body problem, kinematics of rigid body motion.

3 hours a week, one semester (half course).

✓ 354. **Differential Equations:** Elementary methods of solution of ordinary differential equations of the first order and of differential equations of higher order with constant coefficients, existence theorems, theory of linear equations, oscillation theorems, eigenfunctions, solution in infinite series, solution of special second-order partial differential equations, introduction to the use of the Laplace transformation.

3 hours a week.

429b. **Synthetic and Analytic Projective Geometry:** Principles of duality, correlation of geometric figures, harmonic ranges, harmonic pencils, Pascal's and Brianchon's theorems, poles and polars, analytic foundations of projective geometry, perspectives, affine and Euclidean geometries from the projective point of view, the classical non-Euclidean geometries, the geometric continuum.

3 hours a week, one semester (half course).

✓ 437. **Modern Algebra:** Groups, rings, fields, the integers, rational numbers, polynomials, real numbers, complex numbers, group theory, vector spaces, matrices, linear groups, determinants, canonical forms, set theory, Galois theory.

3 hours a week.

438y. **Functions of a Complex Variable:** Fundamental definitions, elementary functions, Cauchy's integral formula, residues and poles, conformal mapping, applications to the evaluation of real integrals and to the solution of some partial differential equations of physics. Prerequisite: Mathematics 354.

1 hour a week (half course).

✓ 444. **Theory of Functions of a Real Variable:** Measure and integration, point-set theory, Lebesgue-Stieltjes measures, measurable functions, integration, convergence theorems, Hilbert and Banach spaces.

3 hours a week.

✓ 448. **Theory of Functions of a Complex Variable:** Point sets, analytic functions, conformal mapping, integration, infinite series and applications, integral and meromorphic functions.

3 hours a week.

✓ 449a. **Modern Differential Geometry:** Differential manifolds, tensor fields, exterior differential calculus, spaces with affine connection, Riemannian spaces, introduction to generalized metric spaces.

3 hours a week, one semester (half course).

✓ 449b. **The Theory of Relativity:** Special theory of relativity, relativistic dynamics, electromagnetic fields, retarded and advanced potentials, Lorentz, Dirac and Feynman classical theories, general theory of relativity and introduction to unified field theories.

3 hours a week, one semester (half course).

450a. **Mechanics of Continuous Media:** Frictionless fluids, Eulerian equations of motion, vorticity, differential equations of sound propagation, strain and stress tensors, equations of equilibrium and motion for elastic media, viscosity.

3 hours a week, one semester (half course).

450b. **Electromagnetism:** Electrostatics, theory of potentials, dielectrics, steady electric currents, magnetism, quasistationary fields, Maxwell's equations, electromagnetic stress tensor and momentum, plane waves, radiating dipole.

3 hours a week, one semester (half course).

✓ 451. **Advanced Dynamics and Quantum Theory:** (i) The Hamilton equations of motion, canonical transformations, Hamilton-Jacobi theory, the Kepler problem, the Bohr atom, Sommerfeld theory, small oscillations. (ii) Quantum theory: historical introduction; dynamical variables and observables, quantum conditions, equations of motion, elementary applications, perturbation theory, systems of many particles, theory of radiation, applications to atoms and nuclei, relativistic theory of the electron, theory of positrons. (Prerequisite: Mathematics 341).

3 hours a week.

MODERN LANGUAGES

Officers of Instruction: Associate Professors: Rev. C. J. Drouillard, C.S.B., Ph.D. (Department Head); Most Rev. C. L. Nelligan, D.D.; A. A. Thibault, M.A., D-es-lettres; Assistant Professors: Sr. Pauline of Mary, S.N.J.M., M.A.; Miss Lillian McCarthy, Ph.D.; Lecturers: Rev. R. S. Pazik, C.S.B., M.A.; Rev. A. J. Weiler, C.S.B., B.A.; Mrs. E. Zakon, M.A.; Instructor: Mrs. A. A. Thibault, M.A., Dipl. de l'Institute de Phonetique.

I. FRENCH

French Major: (A, 2), 12, 21, 22y, 23y, 27, 31.

A. **Elementary:** Emphasis is placed on the acquisition of basic reading and writing skills and of aural comprehension. Laboratory work is required of all students.

5 hours a week.

✓ 2. **Intermediate:** This course is designed to teach the student accurate writing, rapid reading and exact comprehension. Training in the basic skills of aural comprehension and conversation will be given in the laboratory.

3 hours a week.

✓ 12. **The Modern French Theatre:** Specified periods of laboratory work.

3 hours a week.

✓ 21. **Literature of the Eighteenth Century and Romanticism.**

3 hours a week.

✓ 22y. **Conversation, Phonetics:** Systematic oral practice for those students who wish to develop a fluency in speaking French.

2 hours a week (half course).

✓ 23y. **Advanced Composition.**

2 hours a week (half course).

✓ 27. **French Literature of the Renaissance and Classical Periods:** Study of representative literature of the sixteenth and seventeenth centuries: reading, lectures, discussion and reports.

3 hours a week.

✓ 31. **Realism to the present time.**

3 hours a week.

✓ 271. **Prose Composition, Phonetics, Conversation.** (Prerequisite: French 12).

3 hours a week.

✓ 380. **The Literature of the 18th Century:** Lectures, reading, discussion, reports in French. (Prerequisite: French 27).
3 hours a week.

✓ 490. **The Literature of the 19th Century:** Pre-Romanticism, Romanticism, Naturalism and Symbolism in poetry, the novel and the drama. (Prerequisite: French 380).
3 hours a week.

✓ 495. **The Literature of the 20th Century:** Poetry, the Novel and Drama.
3 hours a week.

II. GERMAN

✓ A. **Elementary:** The work of Grade XII or its equivalent is covered. Laboratory periods required.
3 hours a week.

✓ 2. **Intermediate:** The work of Grade XIII or its equivalent is covered. Laboratory periods required.
3 hours a week.

✓ 12. **Advanced:** Readings from selected German authors, grammar, dictation, conversation, laboratory work.
3 hours a week.

✓ 21. **Outline of Modern German Literature:** Survey of German literature from beginnings to Romanticism.
2 hours a week.

31. **German Literature from 1805 to the Present:** The emphasis will be on the actual reading of a maximum number of poems, short stories, novels and plays in their entirety. These works will be discussed as literature and as products of German culture.
3 hours a week.

III. RUSSIAN

✓ A. **Elementary:** Pronunciation, grammar, dictation, translation, oral practice. Laboratory work is required of all students.
3 hours a week.

✓ 2. **Intermediate:** Grammar, dictation, translation, composition, conversation. Laboratory work required. (Prerequisite: Russian A).
3 hours a week.

12. **Advanced:** Special problems of grammar, translation, conversation, composition. Laboratory work required. (Prerequisite: Russian 2).
3 hours a week.

IV. SPANISH

Spanish Major: (A, 2), 12, 21, 22y, 23y, 33, 34.

- > ✓ A. **Elementary:** Grammar, translation, dictation, oral practice. Laboratory work is required of all students.
5 hours a week.
- > ✓ 2. **Intermediate:** Grammar, translation, composition, oral practice, laboratory work.
3 hours a week.
- > ✓ 12. **Advanced:** Grammar review, composition, translation, oral practice, laboratory work.
3 hours a week.
- > ✓ 21. **Spanish Literature:** Literature of Spain from its origins to 1700.
3 hours a week.
- > ✓ 22y. **Conversation:** Systematic oral practice for developing fluency in speaking Spanish, laboratory work.
2 hours a week (half course).
- > ✓ 23y. **Advanced Composition.**
2 hours a week (half course).
- 33. **Spanish Literature:** Literature of Spain from 1700 to present time.
3 hours a week.
- 34. **Hispanic Literature:** Literature of Mexico, Central and South America.
3 hours a week.

MUSIC

Instructor: Violet Webb Leach, L.C.M., C. of M., M.A.

✓ 1. **First Course:** Any two of the following three sections:

(1) (a) History: The Classic period commencing with the life of Bach and Handel, and including music and life and times of Haydn, Gluck, Mozart and Beethoven.

(b) Form: A knowledge of the musical sentences, cadences and sonata form based on the work of Haydn, Mozart and Beethoven.

(2) Elementary Rudiments and Harmony: A knowledge of major and minor scales, intervals, embellishments, dominant seventh chords and their inversions, and the use of primary and secondary chords and cadences.

(3) Applied Music: Public performance, or examination.
3 hours a week.

✓ 11. **Second Course:** Any two of the following three sections:

(1) (a) History: A knowledge of the music and lives of the composers of the nineteenth century, including von Weber, Schubert, Schumann, Chopin, Liszt, Berlioz, Wagner, Brahms, and the Russians.

(b) Form: Continuance of sonata form, the suites, rondo, fugue and dance forms, etc.

(2) Harmony: (a) adding three parts above a figured bass; (b) harmonizing a melody in four parts or adding a bass to a given melody using passing and auxiliary notes.

(3) Applied Music: Similar stipulations to the first year but of correspondingly more advanced character. (Prerequisite: Music 1 or equivalent).

3 hours a week.

NURSING

Officers of Instruction: Miss Florence M. Roach, B.S., Reg.N., R.R.C., R.R.L., (Dean of Nursing); Instructor: Miss M. C. Shaver, Reg.N., P.H.N.Certif., Nursing Ed. Certif., B.Sc.N.; Mrs. A. B. Dalman, Reg.N., B.N.Sc.

For Nursing programs, see p. 99 ff.

30. Nursing Administration: Principles of organization and administration and their application in schools of nursing, hospital nursing services, health agencies; personnel administration; ward management. Administrative patterns in public health; planning and evaluating a community nursing program; office management, relationship with co-workers and other disciplines.

3 hours a week.

31. Teaching in Schools of Nursing and Clinical Services: Qualifications; methods; curriculum; planning course and lesson content; evaluation techniques.

3 hours a week.

32b. Trends and Developments in Nursing: A broad concept of what is involved in the practice of professional nursing; the professional nursing organizations; factors influencing past development as well as present and future trends; consideration of research study reports.

2 hours a week, one semester (half course).

33a. Community Health Nursing: Trends in public health practices necessary for the protection and promotion of individual health; community health facilities, their organization and function; the integration of social and health aspects in the basic nursing curriculum.

2 hours a week, one semester (half course).

34. Principles and Practices of Community Health Nursing: Philosophy, goals and function of community health nursing; integration of social and related public health principles to promote the physical and mental well being of the individual as a member of family and society, consideration of health needs in growth and development from birth to senescence, in terms of modern health concepts.

5 hours a week.

35. **Preventive Medicine and Health Supervision:** Trends in public health practices; organization, administration and legislation for health maintenance from the international to the community level; epidemiological, statistical and nutritional concepts; environmental sanitation and safety; health education and civil defence.

3 hours a week.

39b. **Occupational Health Services:** Historical, social and economic aspects of occupational health; preventive principles and methods in relation to the worker and his environment; management of occupational and non-occupational hazards and illnesses; analysis and evaluation of the professional responsibility of the occupational health nurse in health programs for employee groups.

2 hours a week, one semester (half course).

PHILOSOPHY

Officers of Instruction: Professor: Rev. E. C. Garvey, C.S.B., Ph.D. (Department Head); Associate Professor: Rev. R. G. Miller, C.S.B., Ph.D.; Assistant Professors: Rev. A. E. Alexander, C.Ss.R., Ph.L.; Charles Fay, Ph.D.; P. F. Flood, M.A.; Rev. R. D. Powers, C.Ss.R., M.A.; Rev. P. J. M. Swan, C.S.B., Ph.D.; Rev. W. T. Traynor, C.Ss.R., Ph.L.; Lecturers: J. N. Deck, M.A.; Rev. J. J. Keon, M.A., M.Ed.; Rev. D. G. Macdonald, C.S.B., M.A.

Philosophy Major: Philosophy 15; one of: 25a1, 25a2, 25a3; and also 25b, 27, 31, 34, and one other Philosophy.

For Honours English and Philosophy, see p. 72; Honours History (Philosophy Option), p. 74; Honours Philosophy and Psychology, p. 75; Honours Philosophy and Science, p. 76; for graduate courses, p. 105.

✓ 15. **Introduction to Philosophy:** Greek philosophy from Thales to Aristotle; the definition of philosophy and its relations to theology, natural science and common sense; basic logic; modern and contemporary trends in philosophy.

3 hours a week.

15a. **Introduction to Philosophy:** Greek philosophy from Thales to Aristotle; the definition of philosophy and its relation to theology, natural science and common sense.

3 hours a week, one semester (half course).

✓ 21a. **Logic:** Simple apprehension, judgment and the elements of inductive and deductive reasoning. (Prerequisite: Philosophy 15).

3 hours a week, one semester (half course).

✓ 22. **Ethics:** The principles of moral philosophy. (Prerequisite: Philosophy 15).

2 hours a week.

✓ 25a1. **Philosophy of Science:** Philosophic analysis of change; matter and form; space, motion, and time; causality and finality in nature. Epistemologic comparison of the Natural and Social Sciences, the Philosophy of Nature, Mathematics, and Metaphysics. (Prerequisite: Philosophy 15).

This course concentrates on the physical and biological sciences, and is required for science majors (e.g. majors in Biology, Chemistry, Mathematics, Physics) and Honours students (in Biochemistry, Biology, Chemistry and Physics, Mathematics and Physics, Philosophy and Science) and students in Engineering.

3 hours a week, one semester (half course).

✓ **25a2. Philosophy of the Social Sciences:** Background studies in the Philosophy of Nature (matter and form, substance and accident, change and stability), and in the philosophy of man (the nature of man, the degrees of knowledge). The epistemology of the physical and the social sciences; the philosophy of history; philosophic influences and orientations in the social sciences. (Prerequisite: Philosophy 15).

This course is required for majors in Business Administration, Economics, History, Household Science, Political Science, Psychology, Sociology; and Honours students in Business Administration, Economics and Political Science, History, Household Science, Philosophy and Psychology, Psychology.

3 hours a week, one semester (half course).

✓ **25a3. Philosophy of Art and Poetry:** Relationship of art and poetry to nature; the principles of nature (matter and form, substance and accident, change and stability). The spirituality of man, the epistemology of the sciences (biological, physical, social), the transcendence of man over nature revealed through art. The philosophy of art and making; poetic knowledge. (Prerequisite: Philosophy 15).

This course is required for majors in English, French, German, Spanish; and Honours students in English Language and Literature, English and History, English and Philosophy.

3 hours a week, one semester (half course).

✓ **25b. Social Ethics:** The relationship between philosophy and the social sciences; the nature and function of society; freedom, authority, government; the family and the state. (Prerequisite: Philosophy 15).

3 hours a week, one semester (half course).

(**26b. Philosophy of Education:** The nature of the Philosophy of Education; the metaphysical, epistemological and psychological bases of education. The levels of education. The art of education; problems in contemporary education. (Prerequisite: Philosophy 15).

3 hours a week, one semester (half course).

27. History of Mediaeval Philosophy: The Greek origins, the development, flowering and decline of mediaeval thought. (Prerequisite: Philosophy 15).

3 hours a week.

✓ **28a. Philosophical Psychology:** Philosophical analysis of life; the soul and its powers; external and internal senses; the sense appetites; intellect and will; the nature of man. (Prerequisite: Philosophy 15).

3 hours a week, one semester (half course).

✓ 31. **Modern and Contemporary Philosophy:** A study of modern philosophers from Francis Bacon to the present. (Prerequisite: Philosophy 15).

2 hours a week.

33. **Philosophical Ideas in Modern English Literature:** A philosophic analysis of the ideas in contemporary poetry and fiction.

3 hours a week.

✓ 34. **Metaphysics:** The philosophy of being. The concept and the intuition of being; essence and existence, substance and accident; the transcendental attributes of being. The metaphysics of knowledge, epistemology. The existence of God, the divine attributes. (Prerequisite: Philosophy 15).

3 hours a week.

✓ 36a. **Existentialism:** Existentialism from Kierkegaard to Sartre.

2 hours a week, first semester (half course).

✓ 36b. **Pragmatism:** American pragmatism from Peirce to Dewey.

2 hours a week, second semester (half course).

39a. **History of Political Philosophy:** Ancient, mediaeval and modern political philosophy.

3 hours a week, one semester (half course).

Honours Courses

✓ 221a. **Logic:** The relationships among logic, philosophical psychology, and epistemology. Simple apprehension, judgment and the categorical syllogism; the hypothetical syllogisms; inductive reasoning.

3 hours a week, one semester (half course).

✓ 222. **Ethics:** The relationships among moral philosophy, prudence and moral theology. The principles of moral philosophy.

2 hours a week.

327. **History of Mediaeval Philosophy:** The Greek origins, the development, flowering and decline of mediaeval thought. Readings in St. Augustine, Boethius, St. Anselm, Abelard, Maimonides, St. Bonaventure, St. Thomas, Scotus and William of Occam.

3 hours a week.

✓ 328a. **Philosophical Psychology:** The nature and method of philosophical psychology. A philosophical analysis of life; the soul and its powers; external and internal senses; the sense appetites; intellect, ideogenesis and judgment; will; the psychology of habits; the nature of man.

3 hours a week, one semester (half course).

333. **Philosophical Ideas in Modern English Literature:** A philosophic analysis of the ideas in contemporary poetry and fiction. Readings in Hopkins, Eliot, Yeats, Auden, Frost, Joyce, James, Woolf and others.

2 lectures, 1 seminar hour a week.

✓ 334. **Metaphysics:** The philosophy of being. The concept and the intuition of being; act and potency; essence and existence; substance and accident; the transcendental attributes of being. The degrees of abstraction, the metaphysics of knowledge, epistemology. The existence of God and the divine attributes. (Prerequisite: Philosophy 15).

3 hours a week.

✓ 336a. **Existentialism:** Existentialism from Kierkegaard to Sartre; readings and seminars.

2 hours a week, first semester (half course).

✓ 336b. **Pragmatism:** American pragmatism from Peirce to Dewey; readings and seminars.

2 hours a week, second semester (half course).

350. **Philosophical Texts:** An examination of specified source material in Greek, mediaeval, modern and contemporary philosophy.

2 lectures, 1 seminar hour a week.

401a. **Logical Positivism and Semantics:** The historical and doctrinal study of logical positivism and semantics.

3 hours a week, one semester (half course).

401b. **Symbolic Logic:** A brief introduction to symbolic logic.

3 hours a week, one semester (half course).

✓ 423a. **Philosophy of Art:** History of the philosophy of art and the metaphysics of the beautiful. Comparison of the virtue of art with speculative knowledge and with prudence. The liberal and the servile arts; the useful and the fine arts; the philosophical analysis of the poetic; the philosophy of art and literary criticism.

3 hours a week, first semester (half course).

✓ 431. **Modern and Contemporary Philosophy:** A study of modern philosophers from Francis Bacon to the present. (Prerequisite: Philosophy 15).

2 lectures, 1 seminar a week.

439a. **History of Political Philosophy:** Ancient, mediaeval and modern political thought. Readings in Plato, Aristotle, St. Augustine, St. Thomas, Macchiavelli, Hobbes, Locke, Rousseau, Bentham, Mill, Hegel and Marx.

3 hours a week, one semester (half course).

PHYSICS

Officers of Instruction: Assistant Professors: J. Huschilt, M.A., (Acting Head); G. Duwalo, M.A., Ph.D.; L. Krause, B.Sc., M.A., Ph.D., A.Inst.P. Lecturer: R. H. Koenig, M.Sc. Sessional Instructor: I. H. Brockman, B.E. Demonstrator: J. Csendes, Ph.D., LL.D.

Physics Major: Physics 1a, 10, 22, 23, 36, and two of: Physics 31, 34, 350; Mathematics 1y, 2y, 3y, 16, 26; Chemistry 1a, 10.

For Honours Chemistry and Physics, see p. 87; for Honours Mathematics and Physics, p. 89; for graduate courses, p. 112.

Course Descriptions

✓ 1a. **Basic Physics:** The basic principles of general physics, including statics and dynamics. (Prerequisite: Grade XII Physics).
3 lectures, 3 laboratory hours a week, one semester (half course).

✓ 10. **Mechanics, Heat and Sound:** Fundamental laws of mechanics, particle and rigid body motion, properties of solids and liquids, basic laws of heat, wave motion and sound. Theory of measurements will be treated in connection with the laboratory work. (Corequisite: Mathematics 16).
3 lectures, 3 laboratory hours a week.

✓ 12. **Mechanics, Heat and Sound:** The content is similar to Physics 10, but extends for one term only.
4 lectures, 3 laboratory hours a week, one semester.

✓ 13. **General Physics:** Mechanics, properties of matter, heat and sound, light, magnetism, electricity and modern Physics. Emphasis is placed on an understanding of fundamental principles and their applications with frequent reference to Biology and Medicine. (Prerequisite: Physics 1a or Grade XIII Physics).
3 lectures, 3 laboratory hours a week.

✓ 15. **Optics, Electricity and Magnetism:** Nature and propagation of light, reflection and refraction at plane and spherical surfaces, thin lenses and their aberrations, optical instruments, polarization, interference and diffraction. Fields of stationary and moving charges, Ohm's law, Kirchhoff's laws, induced electromotive force, elementary A.C. theory, instruments.
4 lectures, 3 laboratory hours a week, one semester.

✓ 22. **Light:** Elements of geometrical and physical optics. (Corequisite: Mathematics 26 or equivalent).

2 lectures, 3 laboratory hours a week.

✓ 23. **Electricity and Magnetism:** Fields of stationary and moving charges, Ohm's law, Kirchhoff's laws, induced electromotive force, elementary A.C. theory, instruments. (Corequisite: Mathematics 26 or equivalent).

2 lectures, 3 laboratory hours a week.

✓ 26. **Optics, Electricity and Magnetism:** An elementary treatment of geometrical optics, physical optics, electrostatics, D.C. and A.C. circuit theory and magnetism. (Prerequisites: Physics 10 or equivalent, Mathematics 16).

3 lectures, 3 laboratory hours a week.

✓ 27. **Introduction to Thermodynamics:** Temperature scales, thermodynamic systems, heat transfer, first and second laws, equations of state, Carnot cycle, entropy and Kelvin temperature scale, thermodynamic functions, applications, and kinetic theory. (Prerequisite: Physics 12. Corequisite: Mathematics 25).

2 lectures, 3 laboratory hours a week.

✓ 31. **Thermodynamics:** A course at the intermediate level. (Prerequisite: Physics 10 or equivalent, Mathematics 26 or equivalent).

2 lectures, 2 laboratory hours a week.

✓ 34. **Electronics.** (Prerequisites: Physics 26 and Mathematics 26 or equivalent).

2 lectures, 2 laboratory hours a week.

✓ 36. **Modern Physics:** Semi-quantitative treatment of the electron, electron emission, relativity, atomic spectra, Bohr theory, wave mechanics, X-rays, kinetic theory of gases, low temperature phenomena, natural radioactivity, induced nuclear reactions, nuclear fission and fusion, cosmic rays. (Prerequisite: Mathematics 26 or equivalent; Physics 26 or equivalent).

2 lectures, 3 laboratory hours a week.

✓ 36x. **Modern Physics:** Content the same as for Physics 36, but without laboratory periods. (Prerequisites: Mathematics 26 or equivalent; Physics 15 or equivalent).

Honours Courses

✓ 222. **Introduction to Geometrical and Physical Optics:** Velocity of light, reflection and refraction at plane and curved surfaces, lenses, thick lens, aberration of lenses, optical instruments, dispersion, wave motion, interference, Fresnel and Fraunhofer diffraction, polarization, photometry, colour, spectra, thermal radiation. (Corequisite: Mathematics 26 or equivalent).

2 lectures, 3 laboratory hours a week.

✓ 223. **Electricity and Magnetism:** The electric field, potential, Ohm's Law, D.C. circuits, electrical measurements, capacitance, magnetic fields, D.C. instruments, induced e.m.f., inductance, A.C. theory, electrical transients, and introduction to electronics. (Corequisite: Mathematics 26 or equivalent).

2 lectures, 3 laboratory hours a week.

✓ 331. **Thermodynamics:** Temperature scales, thermodynamic systems, heat transfer, first and second laws, equations of state, entropy and Kelvin temperature scale, specific heats, thermodynamic functions, applications, kinetic theory and introduction to statistical mechanics. (Prerequisite: Physics 10 or equivalent, Mathematics 26 or equivalent).

2 lectures, 2 laboratory hours a week.

✓ 334. **Electronics:** Electron emission, diodes, triodes, etc.; rectifiers, amplifiers, oscillators, modulators, demodulators, photoelectric devices, cathode ray tubes. (Prerequisites: Physics 26 and Mathematics 26 or equivalent).

2 lectures, 2 laboratory hours a week.

✓ 336. **Modern Physics:** Topics covered will include Brownian motion, conduction of electricity through gases, thermionic emission, photoelectric effect, thermal radiation, relativity, atomic and nuclear theory, cosmic rays. (Prerequisites: Physics 222, 223, or equivalent; Mathematics 254 or equivalent).

2 lectures, 2 laboratory hours a week.

✓ 350. **Theoretical Physics I:** Vector algebra, kinematics, dynamics of particles and systems, rigid body motion, inertia tensor, gyrostatic problems, impulsive motion, Lagrangian equations, vector analysis, fields of stationary electric charges, dielectrics, ponderomotive interaction of steady currents, para-, dia-, and ferro-magnetism, quasi-stationary fields, Maxwell's equations, electromagnetic waves in dielectrics and conductors. (Prerequisites: Physics 26 and Mathematics 26 or equivalent).

3 hours a week.

442a. Crystallography: A survey of structural properties of crystals, with special reference to some of the more common types of lattices. Correlation of lattice structure with physical and chemical properties.

2 lectures a week, one semester (half course).

442b. X-Rays and Spectroscopy: The application of X-ray and optical methods to the determination of the composition and structure of substances. X-ray and spectroscopic instrumentation.

2 lectures a week, one semester (half course).

450. Theoretical Physics II: Hamilton-Jacobi theory, hydro- and aero-dynamics, elasticity, wave motion and vibratory systems, Hertz electric and magnetic vectors, multipole fields, Lenard-Wiechert potentials, accelerated charges, Maxwell's electromagnetic stress tensor, waveguides, relativity.

3 hours a week.

451. Mathematical Methods in Physics: Partial differential equations of mathematical physics, special functions, applications of complex variable, to Fourier and Laplace transforms.

2 hours a week.

452. Physical Optics: A treatment of interference, diffraction, polarization and scattering of light is presented at an advanced undergraduate level. The theory of atomic spectra is also discussed.

2 lectures a week.

466. Solid State and Nuclear Physics: Structure of solids, properties of electrons in solids, electrical and thermal conductivity, semiconductors, magnetism, nuclear structure, isotopes, natural radioactivity, induced nuclear reactions, nuclear energy sources, high energy nuclear processes, cosmic rays.

2 hours a week.

470. Senior Physics Laboratory.

Minimum: 1 hour lecture, 5 hours laboratory a week.

Courses numbered 400-499 will not be offered in 1959-60.

POLITICAL SCIENCE

(See p. 130.)

PSYCHOLOGY

Officers of Instruction: Professor: Brother R. Philip, F.S.C., Ph.D., (Department Head); Associate Professor: Rev. M. A. Record, C.S.B., M.A.; Assistant Professor: Rev. R. C. Fehr, C.S.B., Ph.D.; W. R. Mann, M.A.; Lecturers: Rev. T. J. McGouey, C.S.B., B.A.; Instructor: Mrs. W. R. Mann, M.A.

Psychology Major: Psychology 15, 28, and three other full courses, plus attendance at Seminars in the History and Literature of Psychology; and Philosophy 28a.

For Honours Psychology, see p. 76; for Honours Philosophy and Psychology, p. 74; for graduate courses, p. 104.

✓ 15. **Introduction to Psychology:** A general orientation to Psychology from the scientific viewpoint.
3 hours a week.

Psychology 15 is a prerequisite for all other courses in Psychology, except Psychology 21.

✓ 21. **Psychology of Adjustment:** This course is designed to present the student with an orientation to the place of psychology in the life of the individual, of the family and of society. Emphasis is placed upon principles of mental hygiene, the parent-child interaction, and interpersonal relationships.
2 hours a week.

✓ 22. **Child and Adolescent Psychology:** The growth and development of the child and the adolescent.
3 hours a week.

✓ 26a. **Educational Psychology:** Growth and development; learning, problem solving, imagination, individual differences, motivation, personality and mental hygiene of school children. (Philosophy 26b also recommended).
3 hours a week, one semester (half course).

✓ 27. **Psychological Tests and Measurements:** Principles of construction and use of standardized tests. Emphasis is placed upon the interpretation and critical evaluation of tests.
3 hours a week.

✓ 28. **Statistical Methods in Psychology:** Basic principles and methods in the application of statistics to psychological problems.
3 hours a week.

✓ 29. **Personality:** A study of personality organization, development and assessment. (Prerequisites: Psychology 28, 22 or 31).
3 hours a week.

✓ 30. **Experimental Psychology:** Introduction to laboratory methods and interpretation of results. (Prerequisite: Psychology 28).
2 lectures, 2 laboratory hours a week.

✓ 31. **Abnormal Psychology:** Concepts of and criteria of abnormality, mental deficiency, neuroses, psychoses and psychopathy. Discussion of the main theories of abnormality.
3 hours a week.

✓ 33a. **Applied:** The application of psychological principles to problems in industry and in other fields of human activity.
3 hours a week, one semester (half course).

✓ 33b. **Physiological:** A study of the nervous systems in their relation to psychological functions. The endocrine glands and their effect on man's development and conduct.
3 hours a week, one semester (half course).

✓ 34. **Social Psychology:** A study of man as a psychological unit of society. Language, learning, leadership, propaganda, competition, culture, conflict, etc., are studied as areas of social interaction.
3 hours a week.

Honours Courses

✓ 222. **Child and Adolescent Psychology:** The growth and development of the child and the adolescent. Special reading in theory and research of development including works of Gesell, Piaget, Freud, Montessori. Six hours observation and analysis of psychological testing of children.

226a. **Educational Psychology:** Growth and development; learning, problem solving, imagination, individual differences, motivation, personality and mental hygiene of school children.
3 hours a week, one semester (half course).

✓ 228. **Statistical Methods:** Principles and methods relating to psychology and education; tests of significance.
3 hours a week.

233a. **Applied Psychology:** The application of psychological principles to problems in industry and in other fields of human activity.
3 hours a week, one semester (half course).

233b. **Physiological Psychology:** A detailed study of the nervous systems in their relation to psychological functions. Recent findings of the effect of the endocrine glands on behaviour. An evaluation of drug therapy in the treatment of mental illness.
3 hours a week, one semester (half course).

327. **Psychological Tests and Measurements:** Theoretical bases of test construction; study of tests used in measuring intelligence and personality; practice in the administration and evaluation of tests.

3 hours a week.

✓ 329. **Personality:** A study of the theories of trait organization and the development and assessment of personality, with emphasis on individual differences. Ideas, values, attitudes and motives are considered. A special experimental study of trait relationship is undertaken by each student.

3 hours a week.

✓ 330. **Experimental Psychology:** Introduction to laboratory methods and interpretation of results. Principles of experimental design. The carrying out of a short original project.

2 lectures, 2 laboratory hours a week.

✓ 331. **Abnormal Psychology:** Concepts of and criteria of the normal and abnormal. A consideration of the organic and psychological sources of mental illness with special emphasis on the etiology, symptoms and dynamics of neuroses, psychoses and psychopathies.

3 hours a week.

✓ 334. **Social Psychology:** A study of man as a psychological unit of society. Language, learning, leadership, propaganda, competition, culture, conflict, etc., are studied as areas of social interaction. Honours students will be required to carry out a social study project in addition to their regular assignments.

3 hours a week.

✓ 450. **Projective Techniques:** An introductory course in Rorschach, Thematic Apperception Test, and the House-Tree-Person test. Stress is placed on the Rorschach.

3 hours a week.

✓ 451. **Advanced Statistics:** Tests of significance, non-parametric tests and analysis of variance.

3 hours a week.

✓ 452. **Emotions:** A study of the physiological basis of emotion and the more recent investigations in this area. A historical study of the development of theories of emotion and motivation. (Prerequisite: Psychology 33b).

3 hours a week.

✓ 453. **Learning:** A study of the theoretical and experimental approach to learning.

3 hours a week.

RUSSIAN

(See p. 157.)

SOCIOLOGY

Lecturer: R. A. Helling, B.A., Dipl.-Sozialwirt.

Major Requirements: Sociology 12, 23, 32, 35; and Psychology 34.

✓ 11a. **Introduction to Sociology:** The concepts and methods of sociology; forms of social organization; problems of the modern community. Not open to majors.

2 hours a week, one semester (half course).

✓ 12. **Introduction to Sociology:** The study of social organization and the social process; the analysis of group life, social contacts, interaction, social forces, conflicts, accommodation, assimilation, amalgamation, and methods of social control.

3 hours a week.

✓ 23. **Social Problems:** The study of personality disorganization and maladjustment from the point of view of sociology; the problems of poverty, physical and mental deficiency, alcoholism, insanity, delinquency and crime; social change and social disorganization, the pathology of social groups and classes, the pathology of economic and cultural relations.

3 hours a week.

✓ 32. **Urban Community:** Form and development of the urban community. Study of the demographic structure, the functional organization of a heterogeneous society. Special emphasis is put on the industrial community. Study of the means of control and social planning. Study of the rehabilitation and conservation of changing neighbourhoods.

2 hours a week.

✓ 35. **The Development of Sociological Theory:** European and American social theory.

3 hours a week.

Honours Courses

✓ 332. **Urban Community:** Form and development of the urban community. Social planning for urban redevelopment. Study of social patterns in the city. Urban rehabilitation and neighbourhood conservation. A comparative evaluation of different functional designs of cities.

3 hours a week.

✓ 335. **The Development of Sociological Theory:** European and American social theory. Pioneers of sociology, contributions of sociologists in Germanic countries, Slavic countries; French sociology, English sociology and North American sociology. The recent trend in sociological theory; the theory of action.

3 hours a week.

SPANISH

(See p. 158.)

SPEECH

For staff, see English Department, p. 140.

- ✓ 15y. **Public Speaking.**
1 hour a week (half course).
- ✓ 20. **Advanced Public Speaking.**
2 hours a week.
- ✓ 30. **Stage Movement and Acting:** Principles of balance and coordination; freedom through control; dramatic expression through mime; music as an aid to rhythm, expression, style; simple dance forms; grouping. Character imagination and presentation; subordination of the individual in producing the emotional tension, atmosphere and shape of the play.
2 hours a week.
- ✓ 32. **Use and Management of the Voice:** Subconscious control of the voice; training of the immature voice in physical control and expressive capacity; training the voice as a physical instrument without relation to interpretation.
2 hours a week.
- ✓ 36. **Diction and Interpretation:** Consideration of the problems of speech in performance of prose and verse for the purpose of interpretation. Rhythm and phrasing; structure and intellectual and emotional content of prose and poetry; imaginative interpretation; audience attention.
2 hours a week.

THEOLOGY

Offered by University and Holy Redeemer Colleges

Officers of Instruction: Professors: Rev. L. A. McCann, C.S.B., S.T.D. (Department Head); Rev. L. G. Owens, C.Ss.R., S.T.L.; Associate Professors: Most Rev. C. L. Nelligan, B.A., D.D.; Rev. D. L. Egan, C.Ss.R., S.T.L.; Assistant Professor: Rev. E. J. Crowley, C.Ss.R., S.S.L.; Lecturer: Rev. J. J. Keon, C.S.B., M.A., M.Ed.

Theology major: Theology 14, 22, 24, 33 and 34. Students taking a major in Theology or a combined major in Theology and another subject are urged to take one or more of the following options: Philosophy 22, 27, 34; History 11.

✓ 14a. **Sacred Scripture:** Introduction to the Bible; inspiration; literary forms. Old Testament studies: the Covenant, the Psalms. New Testament studies: the Good News of Christ.

2 hours a week, one semester (half course).

✓ 14b. **Liturgy:** Liturgical worship of the Church, studied in the light of Theology.

2 hours a week, one semester (half course).

15. **Revelation: God:** The sources of revelation; the existence of God; the nature of God; the Divine attributes; the Divine operation; the Blessed Trinity.

2 hours a week.

✓ 22a. **Christology:** The last three years of the life of Christ, with an outline of the apposite historical setting and background. The personality of Christ as displayed in His works and teachings.

2 hours a week, first semester (half course).

✓ 22b. **Mariology:** History of the Marian devotion; mission and prerogatives of the Blessed Virgin based on the teachings of the Church as found in Sacred Scripture and tradition and encyclicals.

2 hours a week, second semester (half course).

✓ 24a. **Catholic Dogma:** Sources and nature of Theology. The Infinite Spirit; the Blessed Trinity; the Incarnation; the Mass and the Sacraments.

2 hours a week, one semester (half course).

- ✓ 24b. **The Fall and Restoration of Man:** Original sin; grace, the habits and virtues.
2 hours a week, one semester (half course).
- ✓ 33a. **Apologetics:** Validation of Christianity's claims.
3 hours a week, one semester (half course).
- ✓ 33b. **Great Minds of the Early Church:** Introduction to the Fathers of the Church.
3 hours a week, one semester (half course).
- ✓ 34a. **The Church:** Notion, structure and development of the Mystical Body of Christ.
2 hours a week, one semester (half course).
- ✓ 34b. **Sacramental and Moral Theology:** The sacraments; contemporary moral problems; the layman in the Church.
2 hours a week, one semester (half course).

Offered by Canterbury College

Officer of Instruction: Professor: Rev. R. S. Rayson, M.A., S.T.B., D.D. (Department Head).

- ✓ 14c. **The Basis of Christian Belief:** Revelation, Reason, and Faith. The Bible as a source of revelation: its inspiration; development of the Canon and Text of the Old and New Testaments. The Anglican use of Scripture, reason and tradition. The elements of Christian belief as contained in the Three Creeds.
2 hours a week.

- ✓ 24c. **The Principles of Christian Conduct:** The moral law, cardinal and theological virtues, and notable duties. Habitual and actual grace, prayer, and the Sacraments. Specific problems such as betting and gambling, divorce, and temperance, and the application of Christian standards to industry, commerce, labour and politics. Seminars and essays will be required.
2 hours a week.

ZOOLOGY

(See p. 115.)

DEPARTMENT OF EXTENSION

Assumption University of Windsor offers instruction in the evening and on Saturday mornings for the benefit of teachers, business men and others whose occupations prevent them from attending classes in the day. Courses offered are intramural and are applicable towards degrees. Instruction is given in each subject one evening per week or each Saturday morning throughout the academic year.

SUMMER SCHOOL

Instruction is offered in a Summer School of six weeks, usually commencing the first Monday in July. Students may take a maximum of two full courses in one summer session. This summer session is intended primarily for the benefit of persons who are unable to attend the regular winter sessions as full-time students. Hence a student who has been in attendance full-time the previous academic year may attend the Summer School for credit only to make up deficiencies and with permission of the Dean. Students proceeding to degrees at other Universities may attend the Summer School at Assumption with permission of the appropriate officials of the institutions concerned.

N.B. A candidate for a degree must attend intramural classes of this University for two full academic years, or for one full academic year and two summer sessions, or for five summer sessions. This requirement is reduced to a minimum of one full winter session or three summer sessions by the transfer of credit from an approved college or University. (Attendance in the Evening Division or as a part-time student in the regular winter session (days) is the equivalent for purposes of this regulation of attendance at the summer session).

For subjects offered in the Department of Extension and in Summer School, and for additional information, consult the Director of Extension, Assumption University of Windsor, Windsor, Ontario (phone CLearwater 4-9246, extension 26). Registration dates:

Summer School: 1959, July 6; 1960, July 4.

Evening and Saturday Morning Division: 1959, September 16, 17, 18, 19.

Prospective students are strongly advised to contact the Registrar's Office in advance of these dates.

SEMESTER-HOUR EQUIVALENTS

The following list has been compiled for the convenience of evaluating committees in institutions which employ a credit system.

I. Grade XIII Subjects:

Two papers in each of: English, French, German, Greek, Italian, Latin, Spanish	6
Chemistry, Physics (each)	4
Algebra, Botany, Geography, Geometry, History, Mathe- matics of Investment, Music, Trigonometry, Zoology (each)	3

II. University Subjects:

Semester Credits	Semester Credits	Semester Credits	Semester Credits
Anthropology	346a 3	16 8	Economics
10 6	346b 3	22 6	15 4
	350 6	22m 5	19 6
Biology	351 6	23 6	21 6
1 6	353 6	24 4	23 6
	356 6	32b 3	27a 3
	360 6	34 6	27b 3
Botany	450a 3	36 6	31 6
1a 3	450b 3	36x 4	34 6
10 6	451a 3	38 6	36 6
16b 4	451b 3	39 6	219 6
18 6	452a 3	232 8	221 6
26 6	452b 3	233 8	223 6
30a 3	453a 3	244 4	227a 3
30b 3	453b 3	332 4	227b 3
243 6	454a 3	333 8	301 6
333 6	454b 3	335 4	336 6
336 6	455 6	344 10	338 6
337y 2	456b 3	344e 8	353 6
400 6	457b 3	346 8	400 4
440a 3	459 6	444 6	402 4
446 6	460a 3	445 4	406a 2
	460y 4	446 10	410 4
Business		447b 2	431 4
Administration	Chemistry	449 12	434 6
15 6	1a 4	450y 1	
250 8	10 8		

Semester Credits	Semester Credits	Semester Credits	Semester Credits
Engineering	CE306.....	35	6
ES100..... 4	CE400y..... 2	36	6
ES200..... 4	CE401b..... 3	38	6
ES201..... 5	CE402..... 4	39	6
ES201x..... 4	CE403..... 4	236	6
ES202a..... 3	CE404a..... 3	250	6
ES203b..... 2	CE405..... 6	254	6
ES300..... 5	EE200b..... 3	350	6
ES301y..... 3	EE201..... 6	356	6
ES302a..... 3	EE202a..... 3	357y	2
ES302b..... 3	EE203b..... 3	358	6
ES303..... 5	EE300..... 5	363y	4
ES304..... 5	EE301..... 5	441y	2
ES305..... 5	EE301x..... 4	450	6
ES400..... 8	EE302b..... 3	459	6
GE100..... 4	EE303..... 5	460	6
GE101.....	EE304a..... 3	463	6
GE102.....	EE400..... 6	470y	2
GE400a..... 2	EE401..... 6		
GE401b..... 2	EE402..... 5	Fine Arts	
GE402b..... 2	EE403..... 6	16	6
GE403b..... 2	EE404..... 4	23a	1
ChE200..... 5	ME200..... 5	26	6
ChE300..... 4	ME201y..... 3	36	6
ChE301..... 8	ME300..... 4		
ChE302..... 4	ME301..... 7		
ChE400..... 4	ME401..... 6	French	
ChE401..... 4	ME402..... 5	A.....	10
ChE402..... 6	ME403..... 7	2	6
ChE403..... 6	ME400..... 5	12	6
CE200a..... 4	ME404a..... 3	21	6
CE201b..... 3		22y	4
CE202b..... 1	English	23y	4
CE300..... 5	5	27	6
CE301..... 6	11	31	6
CE301a..... 3	15	271	6
CE302..... 4	21	380	6
CE303..... 5	22	490	6
CE304b..... 2	33y	495	6
CE305a..... 2	34		
		Geography	
		10	6
		19	6
		21	6
		24	6
		31	6
		34	6
		324	6
		334	6
		Geology	
		10	6
		10e	5
		German	
		A.....	6
		2	6
		12	6
		21	4
		31	6
		Greek	
		12y	2
		History	
		4	6
		10	6
		11	4
		23a	3
		24	4
		27	6
		31	6
		34	4
		36	6
		38	6
		47	6
		236	6
		247	6
		257	6

Semester Credits		Semester Credits		Semester Credits		Semester Credits	
331	8	Latin		341a	3	34	6
333a	3	A.....	10	341b	3	36a	2
345	6	2	6	354	6	36b	2
354b	3	12	6	429b	3	39a	3
356a	3	22	6	437	6	221a	3
358	6	23	4	438y	1	222	4
361a	3	24	6	444	6	327	6
361b	3	31	6	448	6	328a	3
444	6	32y	2	449a	~~3~~ 3	333	6
452	6	Mathematics		449b	3	334	6
455	6	1y	3	450a	3	336a	2
		2y	3	450b	3	336b	2
		3y	3	451	6	350	6
Household Science		4a	3	Music		401a	3
12a	3	4b	3	1	6	401b	3
14b	3	11	6	11	6	423a	3
20	6	13b	3			431	6
21	5	16	6	Nursing		439a	3
32	5	21a	3	30	6	Physics	
35	4	21b	3	31	6	1a	4
220b	3	22	6	32b	2	10	8
221b	3	25	6	33a	2	12	5
223b	2	26	6	34	10	13	8
224a	3	30a	3	35	6	15	5
235	4	30b	3	39b	2	22	6
320b	3	32a	3			23	6
321a	3	32b	3	Philosophy		26	8
322	6	33	6	15	6	27	6
323b	2	35	4	15a	3	31	6
327b	2	36	6	21a	3	34	6
420y	2	37	6	22	4	36	6
421b	3	39a	3	25a	3	36x	4
423b	1	39b	3	25b	3	222	6
428	6	227	6	26b	3	223	6
432	6	229	4	27	6	331	6
435b	2	254	6	28a	3	334	6
442	6	300	6	31	4	336	6
		331	6	33	6	350	6
						442a	3

Semester Credits	Semester Credits	Semester Credits	Semester Credits
442b 3	33b 3	Spanish	Zoology
450 6	34 6	A 10	1a 3
451 4	222 6	2 6	10 6
452 4	226a 3	12 6	13a 3
466 5	228 6	21 6	13b 3
470 5	233a 3	22y 4	22 10
	233b 3	23y 4	24a 3
Political Science	327 6	33 6	26 6
12 6	329 6	34 6	27 6
20 6	330 6		28 6
31 6	331 6	Speech	29y 4
212 6	334 6	15y 2	30b 3
220 6	450 6	20 4	34a 3
331 6	451 6	30 6	37a 3
334 6	452 6	32 6	231 10
443 4	453 6	36 6	330b 3
452 4			333 6
	Russian	Theology	335 6
	A 6	14a 2	400 6
	2 6	14b 2	432a 3
Psychology	12 6	14c 4	436 6
15 6		15 4	438x 4
21 4	Sociology	22a 2	440a 5
22 6	11a 2	22b 2	441a 3
26a 3	12 6	24a 2	442b 3
27 6	23 6	24b 2	443 6
28 6	32 4	24c 4	447b 3
29 6	35 6	33a 3	
30 6	332 6	33b 3	
31 6	335 6	34a 2	
33a 3		34b 2	

**INSTITUTIONS OF HIGHER LEARNING OPERATED BY
THE BASILIAN FATHERS**

St. Michael's College
(founded 1852)
federated with the University of Toronto
Toronto, Ontario

Assumption University of Windsor
(founded 1857)
Windsor, Ontario

St. Basil's Seminary
(founded 1926)
Toronto, Ontario

The Pontifical Institute of Mediaeval Studies
(founded 1929; Papal charter 1939)
Toronto, Ontario

St. Thomas More College
(founded 1936)
affiliated with the University of Saskatchewan
Saskatoon, Saskatchewan

University of St. Thomas
(founded 1947)
Houston, Texas

St. John Fisher College
(founded 1949)
Rochester, New York

St. Mark's College
(founded 1956)
affiliated with the University of British Columbia
Vancouver, British Columbia

FORMS OF BEQUEST

I bequeath to the Governors of Assumption University of Windsor, Windsor, Ontario, the sum of \$..... for the general purposes of the University.

I give, devise and bequeath to Essex College, Windsor, Ontario, the sum of \$..... to be used for such purposes as the Board of Directors of the said College may, in its sole discretion, determine.

I bequeath to the Directors of Holy Names College, Windsor, Ontario, the sum of \$..... for the general purposes of the College.

I bequeath to the Directors of Canterbury College, Windsor, Ontario, the sum of \$..... for the general purposes of the College.

I bequeath to the Directors of Holy Redeemer College, Windsor, Ontario, the sum of \$..... for the general purposes of the College.

The following is provided for the convenience of benefactors resident in the United States:

I give and bequeath to Friends of Assumption, Inc., a Michigan corporation, the sum of \$..... to be used for such general purposes of Assumption University of Windsor as the corporation's Board of Directors may direct.

INDEX

	Page
Academic Regulations	58
Admission Requirements	54
Advisory Council	14
Armorial Bearings	4
Athletics	35
Bachelor of Applied Science.....	90
Bachelor of Arts	66
Bachelor of Commerce.....	78
Bachelor of Household Science.....	77
Bachelor of Science.....	82
Bachelor of Science in Nursing.....	98
Basilian Institutions	182
Bursaries	45
Calendar	7
Canterbury College	11, 30, 31, 58
Christian Culture Series.....	33
Counselling	39
Details of Subjects (Undergraduate).....	112
Anthropology	112
Biology	112
Botany	113
Business Administration	119
Chemistry	123
Classics	126
Economics	127
Engineering	131
English	140
Fine Arts	142
French	156
Geography	142
Geology	143
German	157
Greek	126
History	144
Household Science	147
Latin	126
Library Science	149
Mathematics	150
Modern Languages	156
Music	159
Nursing	160
Philosophy	162
Physics	166
Political Science	130
Psychology	170

INDEX

	Page
Russian	157
Sociology ..	173
Spanish ..	158
Speech	174
Theology ..	175
Zoology	115
Diploma Courses:	
Business Administration	79
Nursing Education	99
Public Health Nursing	99
Discipline	34
Employment ..	38
Engineering Courses:	91
Chemical ..	91
Civil ..	92
Electrical ..	93
Mechanical ..	94
Engineering Physics	96
Enrolment	40
Essex College	9, 30, 31, 58
Extension	177
Faculty Council ..	17
Fees ..	41
Financial Aid for Students	44
Forms of Bequest	183
General Information	31
Governors, Board of	8
Graduate Studies:	100
Biology	107
Business Administration	105
Chemistry ..	108
English	103
History	103
Mathematics ..	110
Philosophy	104
Physics	111
Psychology	104
Guidance ..	39
Historical Statement	29
Holy Names College	10, 30, 31, 58
Holy Redeemer College	10, 30, 58
Honours Courses:	
Biochemistry	83
Biology	84
Business Administration	78

INDEX

	Page
Chemistry	85
Chemistry and Physics.....	86
Economics and Political Science.....	68
English Language and Literature.....	69
English and History.....	70
English and Philosophy	71
History (Economics option)	73
History (Philosophy option).....	73
Household Science	77
Mathematics	88
Philosophy and Psychology.....	74
Philosophy and Science	75
Physics	88
Psychology	76
Library	32
Loan Funds	51
Master of Arts	103
Master of Business Administration.....	105
Master of Science	107
Military Training.....	28, 35
Nursing	98
Officers of Administration.....	15
Officers of Instruction	17
Pharmacy	89
~~Preliminary Year~~	~~36~~
~~Pre-Medical Pathology~~	~~83~~
~~Pre-Optometry~~	~~83~~
~~Prizes~~	~~12~~
~~Regents, Board of~~	~~3~~
Registration	58
Requirements for Degrees	66
Residence Facilities	38
Scholarships ..	45
Semester-Hour Equivalents	178
Senate ..	12
Student Services	38
Summer School	177
Teachers' Courses and Certificates.....	64
University College	30, 58

